From War to Peace: A History of Past Conversions

Annex B to
Adjusting to the Drawdown

Report of the
Defense Conversion Commission

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Prepared by: William G. Stewart II

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Logistics Management Institute
6400 Goldsboro Road
Bethesda, Maryland 20817-5886

Executive Summary

In response to the end of the Cold War, the United States is undertaking a major reduction in resources committed to national security. Defense reductions have occurred three other times during the past half century. This paper describes those drawdowns for the purposes of placing today's reductions in historical perspective and benefiting from prior successes. We summarize our findings below.

World War II

The United States was still in the Great Depression when it entered World War II. The mobilization for that war converted a civilian economy into a vast war machine; an unprecedented 50 percent of the economy was dedicated to war production. Depression-level unemployment fell from 14.6 percent in 1940 to 1.2 percent by 1944. The increase in production was extraordinary; economic output almost doubled in real terms between 1939 and 1944. Most of the increase in military production came from companies that formerly had produced only civilian goods. In addition, the nation put into uniform 11 million men and women more than were serving in 1940. This mobilization was funded through massive Federal deficit spending. Wage and price controls, rationing, and tax and profit policies were targeted to control inflation.

From the beginning, the Roosevelt Administration performed extensive, comprehensive planning for the demobilization of military personnel, defense workers, and defense plants in the postwar period. Policies and laws were adopted to enable plants to reconvert quickly back to civilian production, to ease the re-entry into the labor force of returning veterans, and to give consumers and industry the resources to build the postwar economy rapidly. Because of this planning, the demobilization went remarkably well, especially considering its vast scale. Nevertheless, inflation (which had been the bane of post-World War I conversion) plagued the postwar economy, since production of consumer goods could not keep up with the clamor for those goods, fueled by a vast pent-up demand. The immediate postwar years registered sharp declines in the gross national product. But these declines in large part reflected merely a resumption of normal peacetime economic conditions, compared to the artificially high wartime production and employment levels or the extremely low levels of the prewar depression.

Transition assistance was given to returning veterans under a very generous GI Bill and under other laws. These provided for mustering-out pay, guarantees of return rights to former jobs, tuition and other payments for education and training, low-interest payments for home or business purchases, job counseling, and unemployment compensation. Defense companies were given favorable amortization schedules for tax purposes, quick contract settlement and payment, and quick factory clearance of war materials – all so that they could return to and restart their prewar commercial activities without delay.

KOREAN WAR

World War II demobilization was so thorough that only 5 years later the nation required a substantial remobilization to meet the new crisis in Korea. The Korean War mobilization was similar to that for World War II in that it was very sudden and sharp. In the first year of the conflict, the armed forces almost doubled from 1.65 million to 3.1 million, and defense spending went from 5 to 10 percent of the gross national product. In 1950, with unemployment at 5.3 percent and 83 percent of industrial capacity in use, unused resources were available. Thus, as at the onset of the World War II mobilization, the sharp expansion of defense production did not immediately compete with or tax the rest of the economy; it merely put idle resources to work.

Truman adopted many of Roosevelt's policies, with one significant exception: rather than deficit financing, Truman raised taxes to pay for the entire war. Furthermore, the demobilization was not as massive as the World War II demobilization. Not only was the war itself smaller, but afterwards defense spending did not drop very far from its wartime peak. This high level of peacetime defense spending reflected the new Cold War environment. Many firms stayed on in defense production to supply the new large, standing armed forces with increasingly sophisticated and specialized weaponry. Therefore, in contrast to the post-World War II experience, only a portion of defense production needed to be reconverted to civilian pursuits. Conversion to peace was again assisted by a generous GI Bill package of benefits that encouraged many veterans to go to school rather than return immediately to the labor force. The absence of any other transition assistance programs reflected the noninterventionist economic philosophies of the Eisenhower Administration. Even though this smaller postwar shock should have been easier for the economy to absorb than the post-World War II shock, Presidents Truman and Eisenhower both adopted very tight monetary and fiscal policies that constrained growth. Recession followed in 1954.

VIETNAM WAR

The Vietnam buildup began in 1965 in an economy, unlike that at the start of the previous two conflicts, at virtually "full employment." Unemployment was at 4.5 percent and industry capacity utilization was almost 90 percent (compared to the Korean War's significantly lower 83 percent). Thus, even though the buildup was much smaller than that for Korea, there was little room in the economy for any sizable defense increase without producing inflation, unless demand was taken out of the civilian side by such means as higher taxes. President Johnson did not raise taxes until very late in the war, and he also continued high levels of spending for civilian Great Society programs. A deeply rooted inflation set in. During the drawdown from the war's peak, it became apparent that defense production had become sufficiently specialized and distinct from normal commercial production that defense firms found it difficult or impossible to convert their capabilities to meet civilian demands. In the course of that drawdown, the economy went into recession in 1970 and again in 1974 following the oil price shock of 1973.

During the 1960s, many assistance programs were put in place to aid displaced defense workers and companies and communities affected by military base closings or defense plant cutbacks. Veterans enjoyed a new GI Bill, though one less generous than its previous counterparts. By the early 1970s, over two dozen federally funded programs were available to help displaced defense workers and veterans.

Most of the Federal displaced worker assistance programs had not been designed specifically to help displaced defense workers. An exception was the Technology Mobilization and Reemployment Program (TMRP) of 1971, targeted to help laid-off defense scientists, engineers, and technical workers. The TMRP generally provided job and career counseling, job search assistance, and some job training. The success of this program is questionable. Participants did not achieve a reemployment success rate that was better than that of similar engineers who received no assistance. Later, the Carter Administration initiated a program of tax incentives for companies that hired certain categories of unemployed workers. Although the Carter program may have some promise in accelerating the hiring of displaced defense workers today, it did not induce much hiring then, probably because the incentives were not great enough.

REAGAN BUILDUP

The increase in defense spending under Reagan in the 1980s began, like that for the Korean War, in a slack economy. Unemployment was at 9.7 percent in 1982 and industrial capacity use at only 72.8 percent. Furthermore, the annual increase in defense spending was small compared to that in previous buildups. However, Reagan chose to cut taxes at the same time, under the theory that this would stimulate economic activity and actually yield higher Federal revenues in the end. This expectation was not realized; the combination of increased Federal spending (both military and civilian) and reduced revenues created relatively large Federal budget deficits. During the reductions in real (constant dollar) defense outlays that began in 1989, the economy fell into recession (beginning in mid-1990). By 1992, unemployment stood at 7.6 percent (September), with industrial capacity utilization at only 78.5 percent. The economy was growing at perhaps 2 percent for the year. Furthermore, as was discovered during the Vietnam drawdown, defense firms had become so specialized that conversion to normal commercial activity was extremely difficult. In addition, with much excess commercial capacity already available, the defense firms had little opportunity to penetrate the traditional strongholds of commercial firms. Under these circumstances, even though the defense resources being released into the economy were small in comparison to those released after the Korean and Vietnam Wars, the economy was unable to employ them fully or well. They were merely adding to the already existing pool of idle resources and compounding the difficulties in stimulating economic growth.

CONCLUSION

Several noteworthy observations emerge from this history of the last three major military conflicts and the Reagan buildup. First, there was a vast disparity in scale between World War II and the subsequent three "events." The mobilization for World War II and the subsequent demobilization dwarf the others by every measure. The conversion of society from peace to war and back again was swift, dramatic, and without parallel in U.S. history. The later three events are small by comparison. Though these three are roughly equal to each other in their scale in real terms (constant dollars), each subsequent effort comprised a smaller portion of an overall, expanding economy. Thus, each subsequent event posed a smaller risk of disruption to the total economy, other things being equal.

Nevertheless, though demobilization impacts on the total economy may have been minimal, they were quite significant to industries heavily concentrated in defense work, the defense workers in those industries, and the communities tied to defense plants and military bases. For example, 40 percent of the increase in employment associated with the Vietnam War went to the aircraft, ordnance, and transportation industries. In the aftermath of the war, employment fell 22 percent in the aircraft industry in a single year. In 1972, defense-related employment fell by 1.2 million people. In specific regions of concentration of defense work, such as southern California, these effects were particularly traumatic.

The demobilization from World War II was also different from the subsequent drawdowns in that almost all the companies involved in defense production had been commercial firms prior to the war and were anxious to return to their commercial businesses immediately after. By contrast, after the Korean War some companies began to specialize in the unique and sophisticated requirements that defense production began to demand for the enduring Cold War. This specialization increased over time, and major companies specializing in defense business found it increasingly difficult to shift their capabilities to compete in commercial markets when that defense business contracted.

Recessions occurred during each demobilization or drawdown. With the exception of the period immediately after WWII, it is difficult to assert that the release of defense resources into the economy (demobilization) was the primary cause of these recessions. In each case, the Government's management of monetary and fiscal policy, plus major economic factors beyond the control of the Government, may have played the dominant role. The key factor in whether a drawdown will be successful is the strength of the economy's growth rate during the drawdown. If the economy is not growing strongly, the additional burden of idled defense resources is likely to aggravate the economic situation.

Finally, in terms of Government intervention targeted specifically to assist the transition from military to civilian work, the most consistent effort throughout this period has been a GI Bill-type program of transition assistance to military veterans seeking to return to civilian life.

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The United States is experiencing a major shift in the commitment of national resources from defense and national security purposes to other uses. It is not the first time. In fact, over the past half century the country has made this adjustment three other times as well, after three major military conflicts (World War II, the Korean War, and the Vietnam War). In planning what to do during this current conversion, can we learn anything from these prior experiences that can help us? The following explores the possibility.

World War II

In 1939, when German forces crossed the Polish frontier, triggering the start of World War II in Europe, the combined armed forces of the United States numbered 370,000 men.[1] This was less than the army of Poland. The Polish army was defeated in 2 weeks. A year later, as France fell, as Britain fought desperately for her life, and as war raged across a large portion of the world, the American military had grown to only 540,000. Yet in the next 4 years American forces would skyrocket to almost 11.5 million. By 1944, one out of every six working Americans was in the fighting forces.[2]

The mobilization for war and the transformation of the United States achieved between 1940 and 1945 were the most dramatic, massive, and extraordinary in the nation's history.

In 1940, the United States still languished in the grip of the Great Depression. Unemployment was 14.6 percent of the civilian labor force. Although this was down from almost 25 percent in 1933, the nation was still on the ropes.[3] In 1940, the U.S. gross national product (GNP) was $100.4 billion. By 1945 it was $213.4 billion. In real terms (factoring out dollar growth that represents merely price inflation), the nation's economy grew by 75 percent from 1940 to 1944.[4] Unemployment in 1944 was 1.2 percent of the labor force.[5]

Mobilizing for War

American industry launched into the fight against the Axis with incredible fervor and brilliance. The Ford Motor Company Willow Run aircraft factory became the world's largest industrial structure under one roof, producing 428 bombers a month.[6] By 1943, Willow Run was turning out a B-24 bomber every hour on the hour, 24 hours a day.[7] American industry produced a new military aircraft every 10 minutes, day and night; an artillery piece every 6 minutes; a tank every 25 minutes; and a military truck every minute. Large ocean-going cargo ships were being built complete, start to finish, in as little as 4 days.[8] The levels of production were absolutely stunning: 86,000 tanks, 296,000 airplanes, 15 million small arms, more than 40 billion bullets, 64,000 landing craft.[9] And American industry met the needs not only of American military forces but of our allies as well. It is said that when Josef Stalin met Franklin Roosevelt at Teheran, he told the President that Germany was being defeated by Detroit. The engines of the Red Army's tanks were made in Michigan.[10]

The incredible shift from a peacetime economy to a warfighting economy can be seen in the fact that approximately 50 percent of GNP became dedicated to war production, more than double the proportion during World War I. Steel production, for example, climbed from 59.8 million long tons in 1940 to 133 million in 1943. War industries saw their labor forces swell at rates similar to the expansion of the military forces. The aircraft industry expanded twentyfold, while munitions industry employment grew 240 percent. And most of the vast new production facilities were built at Government expense.[11]

If more than 11 million men left their farms, factories, and shops to fight the war, who took their places at work? Whose labor made possible the incredible feat of American wartime production? They were the unemployed (remember, 14.6 percent of the civilian labor force in 1940), women who left the home to work (about 3 million), about half a million older workers who deferred retirement to help in the war effort, and younger workers who normally would have stayed in school.[12] Indeed, between 1940 and 1943, in spite of the loss of workers to the military, civilian employment expanded by 7 million.[13] During roughly the same years, the working-age population increased by less than 3 million.[14] Almost half the total work force of the United States was either in the military, doing civilian work for the military, or working in defense industry.[15] And people worked longer and harder. The average workweek went from 38 to 45 hours.[16]

How was this gargantuan national effort of warfighting and war production financed? By massive Federal deficit spending. During the war years of 1942, 1943, 1944, and 1945, Federal deficits as a percentage of GNP were 12.9, 28.3, 22.5, and 22.3 percent, respectively. By comparison, the Federal deficit today (in peacetime) is considered by many to be too high at about 5 percent of GNP (see Table 1). And Federal spending dominated the economy. In 1944 Federal spending equaled 42 percent of total GNP. Military spending was almost the whole of that, at 41.4 percent of GNP. (Today, Federal spending represents about 24 percent of GNP.)[17]

TABLE 1

Annual Deficits (Surpluses) in Relation to GNP, 1942–1948 and 1991

Fiscal year	Federal Government surplus or deficit ($ billions)	GNP ($ billions)	Surplus or deficit as percent of GNP
1942	−20.5	159.0	12.9 (−)
1943	−54.6	192.7	28.3 (−)
1944	−47.6	211.4	22.5 (−)
1945	−47.6	213.4	22.3 (−)
1946	−15.9	212.4	7.5 (−)
1947	4.0	235.2	1.7
1948	11.8	261.6	4.5
1991	−268.7	5,615.8[a]	4.8 (−)

Source: Table B-74, *Economic Report of the President in 1992*; Table B-1, *Economic Report of the President for 1991*; Table 6.1, *The Budget of the U.S. Government, FY 1992.*

[a] Estimated.

For the consumer, there was almost nothing beyond essentials to buy. Beginning in March 1941, the Government began restricting "nonessential" economic production. That March saw the rationing of nonessential uses of aluminum. Then quickly followed the suppression of

- Building and construction (beginning September 1941)
- Steel production (beginning November 1941)
- Car and truck production, tires (rationed) (beginning January 1942)

- Refrigerators (total cessation of production, February 1942)
- Food (nationwide rationing beginning April 1943).

Many other common consumer goods simply could not be bought at all.[18]

Since they could not buy much, and since wages and employment were high, Americans saved their money at historically high rates. In the war year 1944, consumers saved about 28 percent of their total disposable income.[19] This was money waiting to be spent. Americans could not wait to do so.

Extremely high employment, high wages, phenomenal deficit spending by the Government at a time when Government dominated the economy (thus pumping enormous amounts of money into the society), and supply of goods artificially and drastically restricted – there is an excellent prescription for a price explosion. Federal planners knew it and clamped down quickly with price controls for the course of the war. But price controls merely delay the inevitable price adjustment. A runaway inflation was one of the Roosevelt Administration planners' greatest fears concerning the war's aftermath.

Those planners were haunted by the national experience after World War I. During that earlier conflict, consumers had been unable to buy many items, while incomes had grown tremendously. Americans had built up a great hoard of savings. At the war's end, the Government immediately abandoned the limited wartime price controls. Production, employment, and national income boomed. There was great foreign demand for American goods and services, and exports rose. But the pent-up demand was much greater than industry could supply. Prices soared. In the 6 months between the Armistice in November 1918 and May 1919, wholesale commodity prices rose 23 percent, 148 percent above their prewar level. Retail prices shot up so far beyond the rise in consumer incomes that buying fell off sharply. Labor strife increased. Inventories became financial nightmares. Orders were canceled. Then production dropped sharply, and employment plummeted just afterwards.[20]

The Roosevelt Administration policy makers strongly believed that the economy never fully recovered from the sharp recession of 1920 (even though the decade was ostensibly one of economic boom), and that this lack of full recovery led eventually to the Great Depression. They

came to accept the notion that war-induced inflation had set the nation on an almost irreversible course toward the Great Depression.[21]

The situation faced by the Roosevelt Administration was all too similar to the one leading to the post-World War I debacle. And worse. In comparison to the circumstances of World War I, the factors causing conversion catastrophe were present in an aggravated degree in World War II. The diversion of national productive power to war purposes was much greater, as was the expansion of money and credit. War incomes went to a larger proportion of the people for almost twice as long. Requirements for new industrial equipment were far greater. Price control in World War II was much tighter and more pervasive, thus providing a relatively low level of prices from which inflation could spring.[22] Many predicted a repeat of the runaway inflation that followed World War I and the Great Depression that followed it.[23]

The Roosevelt Administration policy makers were determined not to let that happen. They would control events, not be controlled by them. For the first time in American history, extensive prior planning would be conducted for the aftermath of war.[24] But would they succeed?

Preparation for Peace

Roosevelt actually set up the first postwar planning body in November 1940, more than a year before the United States was attacked at Pearl Harbor. At that time, he chartered the National Resources Planning Board (NRPB) to "collect, analyze, and collate all constructive plans for significant public and private action in the post-defense period." Roosevelt's uncle, Frederic A. Delano, was named chairman of the board. By October 1941, Delano had reported substantial progress in coordinating with the Federal agencies and with plans for a "Post-Defense Planning Conference".[25]

Pearl Harbor suddenly gave the Government a more pressing focus, and demobilization planning was set to the side, though not abandoned. Continued planning was done quietly. Roosevelt did not want members of the general public to hear about demobilization planning; he wanted them focused entirely on mobilization and on winning the war. When Delano proposed in July 1942 that a central postwar planning staff be created with representatives from key agencies and that the new agency be announced publicly, Roosevelt replied that it was not the time for "public interest in or discussion of postwar problems – on the broad ground that there will not be any postwar problems if we lose this war." Roosevelt rejected the suggestion that the planning board be

made public. But he did accept, a bit reluctantly, Delano's idea of a central planning staff.

On June 26, 1943, Congress killed the NRPB, in a revolt against its "lofty economic schemes." Four days later, the NRPB-sponsored Conference on Postwar Readjustment of Civilians and Military Personnel issued its report to the President. It was a 96-point comprehensive program for demobilization. Among other things, the conference recommended rapid demobilization of the military (a concession to political reality) and extensive transitional benefits to servicemen, such as unemployment insurance, a 3-month furlough at base pay, and provision for college tuition and allowances. Job counseling was recommended for defense workers. The conference considered speedy settlement of war contracts and a rapid conversion of industry to civilian production as critical.

With military successes, public clamor for information on demobilization, and a restive Congress, Roosevelt finally decided to go public with demobilization planning. In a radio address on July 28, 1943, he said:

> Our gallant men and women in the Armed Services . . . must not be demobilized into an environment of inflation and unemployment, to a place on the bread line or the corner selling apples. . . . We must, this time, have plans ready — instead of waiting to do a hasty, inefficient, and ill-considered job at the last moment.

He proposed that servicemen should expect at least six entitlements:

1. Mustering-out pay sufficient to cover a reasonable time to find work

2. Unemployment insurance

3. Education or trade training at Government expense

4. Military service time credited under employment compensation and Federal old age and survivor's insurance

5. Improved and liberalized hospitalization and rehabilitation of the disabled

6. Adequate pensions for the disabled.

He released the conference report to the public and transmitted the findings of another committee — the Osborne Committee's report on

postwar educational assistance to veterans – to Congress for immediate action.

Soon after, Roosevelt assigned responsibility for centralized demobilization and postwar economic planning to former Supreme Court Justice James F. Byrnes and his Office of War Mobilization (OWM). But every agency and the Military Services were already deeply engaged in planning for the postwar transition. Indeed, states and localities, businesses of every size, and labor unions all began to plan for the postwar period. Advance planning at all levels and functions of society was one of the most notable and unprecedented characteristics of the World War II conversion effort.

Byrnes set up a small staff under elder statesman Bernard Baruch to conduct a demobilization study. Baruch's report, completed February 15, 1944, focused principally on war contract terminations and surplus property disposition. It called for speedy payment for completed work, prompt negotiation of settlements, unified Government procedures, rapid clearance of property from private plants, and quick sale of surplus property. The President endorsed the recommendations.

Congress began to pass demobilization legislation. Some of the more important measures included the following:

- The Mustering-Out Payment Act of 1944 (passed February 3, 1944). The law provided for payment of $200 to those with over 60 days of service, plus an additional $100 if any service was overseas.

- The Serviceman's Readjustment Act of 1944 (popularly known as the GI Bill, passed on June 13, 1944). The main provisions of the law gave benefits to all veterans who served for at least 90 days after September 16, 1940. Educational benefits included tuition costs, laboratory and other fees (not to exceed $500 a year), plus $50 a month for living expenses for up to 1 year at an approved institution ($25 a month more could be obtained for a dependent). An additional 3 years of benefits became available upon satisfactory completion of the first year. Low-interest, Federally guaranteed loans were available for the veteran's purchase or construction of a home, farm, or business property. Unemployment compensation was included – up to $20 a week for 52 weeks. Job counseling was provided.

- The Contract Settlement Act, passed July 1, 1944, set up the Office of Contract Settlement, which established principles and rules for negotiating claims and settling contract terminations.

- The Surplus Property Act (October 3, 1944) established the Surplus Property Board, charged with planning and supervising the disposal of all surplus property.

- The War Mobilization and Reconversion Act of 1944 established the Office of War Mobilization and Reconversion (OWMR), replacing the OWM and giving the OWMR Director broad reconversion powers. The Director was placed over the Office of Contract Settlement, the Surplus War Property Administration and Surplus Property Board, and the Retraining and Reemployment Administration. The Director thus became a kind of domestic reconversion czar.

In addition, Congress had earlier passed the Selective Training and Service Act of 1940, providing that honorably discharged servicemen who had left a permanent job in private business or government and were capable of resuming that job could demand reinstatement in it.

Civilian defense workers did not receive the same degree of Federal transition assistance. Their fate lay in the hands of employers, unions, the states, and local communities. However, the unemployment compensation systems held very high reserves of $6 billion, since wartime incomes had been so high and unemployment so low.

The key to avoiding a postwar economic catastrophe was clearly going to be an unprecedentedly *fast* conversion of industry from war production to normal peacetime work. That conversion would depend on the Federal Government's expeditious termination of war contracts, clearing war goods from privately owned plants, disposing of Government-built and -owned manufacturing facilities, and sale of war surplus. Without success in these areas, industry would be retarded in rebuilding civilian production. If that production did not soar quickly, inflation and Depression-era unemployment could be expected.

The scale of these efforts was staggering. There were 320,000 prime contracts to be settled, with a commitment value of more than $65.7 billion (compared to World War I's $7.5 billion).

Because of these concerns, the first focus was on establishing uniform, fair procedures for contract settlement. The Administration established the Joint Contract Termination Board, which proceeded to set uniform policies for contract terminations among the major Federal

procurement agencies. The efforts of the board were sanctioned in the Contract Settlement Act of 1944. The War and Navy Departments agreed on a Joint Termination Regulation for field offices. An education effort was launched to explain the procedures to industry and the public. Some 3,200 pretermination agreements were made with industry, dealing with stop-work provisions, prices of unfinished articles, tooling expenses, and inventory accounting methods. Thousands of termination telegrams were prepared for future use.

Timing was critical. Conversion could not take place overnight. Industry reconversion was begun early and proceeded steadily. As early as August 1943 (nearly a year before the Normandy invasion), 8,520 prime contracts had been terminated. By 1944, contract cancellations were running a billion dollars a month. By November 1945, 301,000 prime contracts worth $64 billion had been terminated.

Getting contract settlement money to contractors quickly was critical. Contract termination teams were given full authority to negotiate final settlements. The goal was quick settlement and quick contractor payment, so that companies could plow the money rapidly into new civilian production. The Comptroller General had opposed this method, saying that payment should await review and audit of settlements by his office. Baruch had rejected this go-slow approach, saying it would freeze billions in working capital and result in "unemployment by audit." Congress agreed with Baruch. Settlements proceeded at a lightning pace. When a settlement was pending, partial payment of up to 90 percent of the contractor's claims, or Government guaranteed loans through commercial banks, were arranged. This interim financing was a critical source of working capital for industry's reconversion.

In addition to expeditious termination procedures, it was important that factories be quickly cleared of war materials so that civilian production could resume. Inventories owned by Government would either be sold to the contractors or recovered by the Government for later disposition by sale or salvage. The Government set for itself an extraordinary 60-day time limit for every plant clearance. In the end, less than 6 percent of factory clearances exceeded this time limit.

Government tax policies were also significant. The Government adopted liberal amortization provisions that allowed industry for tax purposes to charge off the cost of new investment in plant and equipment within 5 years. This alone permitted an industry accumulation of $25 billion in corporate reserves between 1941 and 1945.

Thus, liberal Government policy with regard to contract terminations and amortization for tax purposes directly contributed to the amassing of capital by industry for postwar reconversion to civilian production. Booming profits (most also derived from Government contracts) also helped. Total corporate profits after taxes soared to record levels of $9.9 billion in 1943, $11.2 billion in 1944, and $9.0 billion in 1945.[26] Most of these profits were not paid out as dividends but were retained and available for reconversion expenses.

These high corporate reserves permitted industry to finance 75 percent of postwar expenses from internal funds. But companies that sought loans from banks also found that interest rates were historically low. This was in part due to the high savings of consumers during the period and in part due to the credit policies of the Federal Reserve. The Federal Reserve discount rate had fallen from 5.16 percent in 1929 to 1 percent by 1937. It stayed at 1 percent until 1948. The average interest rate charged customers by banks was 2.34 percent in 1946.[27]

Another vital factor that contributed to swift industrial postwar conversion was the fact that most major industries did not require massive investments in retooling. Some industries, like steel, required no changeover at all; they simply continued putting out steel or other raw material. Other industries were already in consumer production throughout the war and could expect nothing but more business after the return of the veterans.

Many companies had also carefully stored their prewar production machine tools and were able to return them to use in a matter of weeks. General Motors returned to production of its prewar models within weeks, though full-volume production required half a year.

And industry management, like Government, had planned extensively for reconversion. Company managers knew exactly what needed to be done to get their civilian production lines running again. They were simply returning to doing exactly what they had done before the war.

Postwar Conversion Experience

Then it was over. Ten million veterans were released from duty by August 1946. As Truman said, it was the "swiftest and most gigantic changeover that any nation has ever made from war to peace".[28] Would the massive unemployment predicted by many result?

It did not. Although 2 million people were unemployed by August 1946, that number constituted only 3.3 percent of the labor force. Many regarded that level as probably the lowest possible in a peacetime economy. Furthermore, it contrasted sharply with the 8.1 million unemployed before the war.

How was it possible? First, many women returned to the home. From August 1945 to February 1946, 2.2 million women left the work force. Older workers who had suspended their retirements also withdrew, as did young workers who went back to school (0.8 million for both groups combined). Many veterans, believed to be about 1.7 million, merely rested and took care of personal affairs rather than search immediately for jobs. Another 800,000 veterans took advantage of the GI Bill and went to college. In addition, many employers kept war workers on their payrolls, even though full-time work was not needed. The agricultural season also helped, giving a boost in employment of 7 million workers. And the cutback from a 45-hour workweek to 40 hours meant that more workers had to be employed in some firms.

And most important, the success of rapid industrial conversion to civilian production absorbed millions of veterans and war production workers. Production soared to unprecedented peacetime levels. In 1946, production was about 50 percent above 1939 levels and only 15 percent below the wartime high.[29]

By the end of 1946, civilian employment approached 58 million. This was the highest in the nation's history, more than 10 million higher than in 1940 and even several million higher than the wartime peak.[30]

The American economy had doubled from its prewar size. Annual per capita disposable income went from $497 in the prewar years to $1,026 in 1946, more than double. In real terms, income went up 67 percent compared to that of the prewar period. Truman said of this strange, total, almost magical transformation: "We have made such great strides forward in wealth and productivity that our thinking for the future can no longer be bound by the distant past."[31]

The United States had remade itself. The change was permanent. The nation had become a middle-class country, the richest and most powerful in the history of the world.

But there was a dark side, a doubt. It had to do with prices. The Government had succeeded beyond its wildest hopes with postwar

employment. It had succeeded with postwar production. But the inflation war was not over.

In 1945, Congress passed a tax cut of $6 billion, cutting personal taxes 5 percent and business taxes up to 38 percent while dropping 12 million people from the tax rolls. This stimulated the economy on top of the already swollen savings of individuals and business liquid capital, as well as veterans' payments and continued Federal deficit spending. Output could not keep up with all the demand. It was being "soaked up like rain after a long drought."[32]

In the middle of 1946, the Government abandoned most price controls as no longer workable (though Truman had wanted desperately to keep them longer). Wholesale prices immediately jumped 24 percent. Consumer prices rose 15 percent. The worst seemed to be happening.[33]

Truman repeatedly tried to warn Congress and the nation of the danger, calling inflation the "greatest immediate domestic problem." In 1947 he managed a counter-inflationary budget surplus of $4 billion. But this was offset by Federal Reserve and Treasury easy credit policies. Truman went to Congress with an anti-inflation package. He got almost nothing. He appealed again, saying that "inflation holds the threat of another depression." There was no response. Inflation soared to 14.4 percent in 1947 (see Table 2).[34] For a comparison of economic measures of conversion periods and Administrations, see Tables 3, 4, and 5.

TABLE 2

Selected Economic Measures, 1940 – 1990

Period			(1) Number of years	(2) Real growth rate – GNP (percent)	(3) Unemployment rate (percent)	(4) Real per capita disposable income growth rate (percent)	(5) Inflation rate (percent)	(6) Federal deficit/ surplus percent of GNP	(7) National defense		
									A Percent of GNP	B Armed forces population (thousands)	C Perc- o: lab for-
Roosevelt-Truman	Prewar	1940	1	7.8	14.6	5.4	0.7	– 2.9	2.3	540	1
	War	1941	5	17.7	9.9	12.7	5.0	– 3.9	11.0	1,620	2
		1942		18.8	4.7	13.5	10.9	– 12.9	31.1	3,970	6
		1943		18.1	1.9	2.7	6.1	– 28.3	41.4	9,020	14
		1944		8.2	1.2	2.6	1.7	– 22.5	41.4	11,410	17
		1945		– 1.9	1.9	– 2.4	2.3	– 22.3	34.5	11,440	17
Truman	Postwar	1946	4	– 19.0	3.9	– 3.3	8.3	– 7.5	7.7	3,450	5
		1947		– 2.8	3.9	– 6.1	14.4	1.7	4.3	1,590	2
		1948		3.9	3.8	3.7	8.1	4.5	4.3	1,456	2
		1949		0.0	5.9	– 1.7	– 1.2	0.2	5.3	1,616	2
	Korean War	1950	3	8.5	5.3	6.2	1.3	– 1.1	5.0	1,649	2
		1951		10.3	3.3	1.7	7.9	1.8	10.1	3,098	4
		1952		3.9	3.0	1.3	1.9	– 0.4	13.1	3,593	5
Eisenhower	Korean War	1953	1	4.0	2.9	2.5	0.8	– 1.7	13.2	3,547	5
	Postwar	1954	7	– 1.3	5.5	– 1.8	0.7	– 0.3	11.2	3,350	5
		1955		5.6	4.4	3.8	– 0.4	– 0.7	9.6	3,048	4
		1956		2.1	4.1	2.9	1.5	– 0.9	9.5	2,856	4
		1957		1.7	4.3	0.5	3.3	0.75	9.9	2,799	4
		1958		– 0.8	6.8	– 0.02	2.8	– 0.6	10.1	2,636	3
		1959		5.8	5.5	2.0	0.7	– 2.6	9.3	2,551	3
		1960		2.2	5.5	0.1	1.7	0.06	8.8	2,514	3
Kennedy		1961	3	2.6	6.7	1.3	1.0	– 0.6	8.9	2,572	3
		1962		5.3	5.5	2.6	1.0	– 1.24	9.0	2,827	3
		1963		4.1	5.7	1.7	1.3	– 0.8	8.5	2,737	3
Johnson	Vietnam War	1964	5	5.3	5.2	5.5	1.3	– 0.9	7.7	2,738	3
		1965		5.8	4.5	4.5	1.6	– 0.2	7.2	2,722	3
		1966		5.8	3.8	3.6	2.9	– 0.5	8.0	3,122	4
		1967		2.9	3.8	3.2	3.1	– 1.1	9.0	3,446	4
		1968		4.1	3.6	2.9	4.2	– 2.8	8.8	3,534	4
Nixon-Ford	Vietnam War	1969	5	2.4	3.5	2.1	5.5	0.3	8.2	3,506	4
		1970		– 0.3	4.9	3.1	5.7	– 0.3	7.6	3,188	3
		1971		2.8	5.9	2.3	4.4	– 2.1	6.7	2,816	3
		1972		5.0	5.6	2.9	3.2	– 1.9	6.4	2,449	2
		1973		5.2	4.9	5.6	6.2	– 1.1	5.7	2,326	2
	Postwar	1974	3	– 0.5	5.6	– 2.0	11.0	– 0.4	5.6	2,229	2
		1975		– 1.3	8.5	0.8	9.1	– 3.3	5.6	2,180	2
		1976		4.9	7.7	2.6	5.8	– 4.1/TQ – 3.3	5.2	2,144	2
Carter		1977	4	4.7	7.1	2.2	6.5	– 2.7	5.1	2,133	2
		1978		5.3	6.1	3.8	7.6	– 2.6	4.8	2,117	2
		1979		2.5	5.8	1.0	11.3	– 1.6	4.8	2,088	2
		1980		– 0.2	7.1	– 1.1	13.5	– 2.7	5.2	2,102	1
Reagan	Reagan buildup	1981	6	1.9	7.6	0.5	10.3	– 2.6	5.5	2,142	1
		1982		– 2.5	9.7	– 0.5	6.2	– 4.0	6.1	2,179	1
		1983		3.6	9.6	2.1	3.2	– 6.1	6.2	2,124	1
		1984		6.8	7.5	4.9	4.3	– 4.9	6.1	2,229	1
		1985		3.4	7.2	2.0	3.6	– 5.2	6.4	2,152	1
		1986		2.7	7.0	2.6	1.9	– 5.2	6.5	2,169	1
	Drawdown	1987	2	3.4	6.2	0.4	3.6	– 3.3	6.4	2,175	1
		1988		4.5	5.5	3.9	4.1	– 3.2	6.0	2,138	1
Bush	Drawdown	1989	2	2.5	5.3	1.4	4.8	– 2.9	5.7	2,131	1
		1990		0.9	5.5	– 2.0	5.4	– 4.0	5.7	2,070	1

(7) tional defense		(8) Personal savings rate (percent)	(9) Money supply growth rate (percent)	(10) Federal Reserve discount rate (percent)	(11) Prime rate (percent)	(12) Real industrial production growth rate (percent)	(13) Industry capacity utilization rate (percent)	(14) Corporate profits	
B Armed forces population (thousands)	C Percent of labor force							A Ratio of profit to sales (manufacturing)	B Percent of profit paid in dividends
540	1.0	4.0	9.9	1.00	1.50	15.2		9.5	67.8
1,620	2.8	10.9	11.3	1.00	1.50	26.4		7.7	65.7
3,970	6.6	23.2	27.1	1.00	1.50	14.8		5.1	51.8
9,020	14.0	24.6	22.8	1.00	1.50	21.1		3.7	44.4
11,410	17.3	25.1	22.7	1.00	1.50	7.9		3.3	41.1
11,440	17.5	19.2	16.5	1.00	1.50	– 16.7		3.2	51.1
3,450	5.7	8.6	– 5.3	1.00	1.50	– 15.8		5.0	70.0
1,590	2.6	3.1	2.9	1.00	1.50 – 1.75	12.4		6.7	53.8
1,456	2.3	5.9	– 1.4	1.34	1.75 – 2.00	4.0	82.5	7.0	39.3
1,616	2.5	3.9	– 0.3	1.50	2.00	– 5.8	74.2	5.8	40.4
1,649	2.6	6.1	4.5	1.59	2.07	15.7	82.8	7.1	51.8
3,098	4.8	7.3	5.6	1.75	2.56	8.5	85.8	4.9	49.1
3,593	5.5	7.3	3.8	1.75	3.00	3.9	85.4	4.3	47.0
3,547	5.3	7.2	1.0	1.99	3.17	8.6	89.3	4.3	50.6
3,350	5.0	6.3	2.7	1.60	3.05	– 5.7	80.1	4.5	47.9
3,048	4.5	5.8	2.2	1.89	3.16	12.7	87.0	5.4	41.0
2,856	4.1	7.2	1.3	2.77	3.77	4.2	86.1	5.3	46.6
2,799	4.0	7.2	– 0.7	3.12	4.20	1.4	83.6	4.8	48.3
2,636	3.8	7.5	3.8	2.15	3.83	– 6.9	75.0	4.2	52.8
2,551	3.6	6.4	1.6	3.36	4.48	12.0	81.6	4.8	43.9
2,514	3.5	5.7	4.9	3.53	4.82	2.1	80.1	4.4	48.1
2,572	3.5	6.6	7.4	3.00	4.50	0.8	77.3	4.3	48.2
2,827	3.8	6.5	8.1	3.00	4.50	8.3	81.4	4.5	42.0
2,737	3.7	5.9	8.4	3.23	4.50	5.8	83.5	4.7	41.4
2,738	3.6	6.9	8.0	3.55	4.50	6.8	85.6	5.2	40.5
2,722	3.5	7.0	8.1	4.04	4.54	10.0	89.5	5.6	37.9
3,122	4.0	6.9	4.5	4.50	5.63	8.9	91.1	5.6	36.7
3,446	4.3	8.1	9.3	4.19	5.61	2.1	87.2	5.0	39.3
3,534	4.3	7.1	8.0	5.16	6.30	5.6	87.2	5.1	42.8
3,506	4.2	6.5	4.1	5.87	7.96	4.6	86.8	4.8	47.2
3,188	3.7	8.0	6.5	5.95	7.91	– 3.4	79.7	4.0	55.8
2,816	3.2	8.3	13.5	4.88	5.72	1.3	78.2	4.1	46.5
2,449	2.7	7.1	13.0	4.50	5.25	9.8	83.7	4.3	41.5
2,326	2.5	9.0	6.9	6.44	8.03	8.1	88.1	4.7	42.1
2,229	2.4	8.9	5.5	7.83	10.81	– 1.5	83.8	5.5	59.5
2,180	2.3	8.7	12.6	6.25	7.86	– 9.7	73.2	4.6	44.4
2,144	2.2	7.4	13.7	5.50	6.84	9.2	78.5	5.4	42.7
2,133	2.1	6.3	10.6	5.46	6.83	8.0	82.8	5.3	38.8
2,117	2.0	6.9	8.0	7.46	9.06	5.6	85.1	5.4	39.3
2,088	2.0	7.1	7.8	10.28	12.67	3.8	85.4	5.7	44.7
2,102	1.9	7.9	8.9	11.77	15.27	– 1.9	80.2	4.8	59.2
2,142	1.9	8.8	10.0	13.42	18.87	1.9	78.8	4.7	59.6
2,179	1.9	8.6	8.9	11.02	14.86	– 4.6	72.8	3.5	77.0
2,124	1.9	6.8	12.0	8.50	10.79	3.7	74.9	4.1	52.4
2,229	1.9	8.1	8.6	8.80	12.04	9.3	80.4	4.6	45.7
2,152	1.8	6.4	8.2	7.69	9.93	1.7	79.5	3.8	44.8
2,169	1.8	6.0	9.4	6.33	8.33	1.0	79.0	3.7	51.9
2,175	1.8	4.3	3.5	5.66	8.21	4.9	81.4	4.9	54.1
2,138	1.7	4.4	5.5	6.20	9.32	5.4	83.9	6.0	54.6
2,131	1.7	4.4	5.0	6.93	10.87	2.6	83.9	5.0	70.0
2,070	1.6	5.1	3.2	6.98	10.01	1.0	82.3	4.0	72.8

TABLE 3

Selected Economic Measures for Periods of Conflict and Aftermath

Period	(1) Number of years	(2) Real growth rate – GNP (percent)	(3) Unemployment rate (percent)	(4) Real per capita disposable income growth rate (percent)	(5) Inflation rate (percent)	(6) Federal deficit/ surplus percent of GNP	(7) National def	
							A Percent of GNP	B Armed for population (thousand
World War II buildup (1941 – 1943)	3	18.2	5.5	+ 9.6	7.3	15.0	27.8	1,620 – 9,02
World War II demobilization and conversion (1944 – 1947)	4	– 3.9	2.7	– 2.3	6.7	13.5	22.0	1,590 – 11,4
Korean War buildup (1951 – 1953)	3	6.1	3.1	+ 1.8	3.5	1.3	12.1	3,098 – 3,59
Korean War demobilization and conversion (1954 – 1956)	3	2.1	4.7	+ 1.6	0.6	0.6	10.1	2,856 – 3,35
Vietnam War buildup (1966 – 1967)	2	4.4	3.8	+ 3.4	3.0	0.8	8.5	3,122 – 3,44
Vietnam War demobilization and conversion (1968 – 1974)	7	2.7	4.9	+ 2.4	5.7	1.3	7.0	2,229 – 3,53
Reagan buildup (1981 – 1986)	6	2.7	8.1	+ 1.9	4.9	4.7	6.1	2,124 – 2,22
Initial Reagan Drawdown (1987 – 1990)	4	2.8	5.6	+ 0.9	4.5	3.4	6.0	2,070 – 2,17

(7) National defense		(8) Personal savings rate (percent)	(9) Money supply growth rate (percent)	(10) Federal Reserve discount rate (percent)	(11) Prime rate (percent)	(12) Real industrial production growth rate (percent)	(13) Industry capacity utilization rate (percent)	(14) Corporate profits	
B Armed forces population (thousands)	C Percent of labor force							A Ratio of profit to sales (manufacturing)	B Percent of profit paid in dividends
1,620 – 9,020	7.8	19.6	20.4	1.00	1.50	20.8	–	5.5	54.0
1,590 – 11,440	10.8	14.0	9.2	1.00	1.50	– 3.1	–	4.6	54.0
3,098 – 3,593	5.2	7.3	2.8	1.83	2.91	7.0	86.8	4.5	48.9
2,856 – 3,350	4.5	6.4	– 0.3	2.10	3.33	3.7	84.4	5.1	45.2
3,122 – 3,446	4.2	7.5	6.9	4.35	5.62	5.5	89.2	5.3	38.0
2,229 – 3,534	3.3	7.8	8.2	5.80	7.43	3.5	83.9	4.6	47.9
2,124 – 2,229	1.9	7.5	9.5	9.29	12.47	2.2	77.6	4.1	55.2
2,070 – 2,175	1.7	4.6	4.3	6.44	9.60	3.5	82.9	5.0	62.9

TABLE 4

Selected Economic Measures for Administrations, 1940 – 1990

Period		(1) Number of years	(2) Real growth rate – GNP (percent)	(3) Unemployment rate (percent)	(4) Real per capita disposable income growth rate (percent)	(5) Inflation rate (percent)	(6) Federal deficit/ surplus percent of GNP	(7) National	
								A Percent of GNP	B Armed popul (thous
Roosevelt-Truman	Prewar 1940)	1	7.8	14.6	5.4	0.7	2.9	2.3	540
	War (1941 – 1945)	5	12.2	3.9	5.0	5.2	17.98	31.9	1,620 –
Truman	Postwar (1946 – 1949)	4	– 4.5	4.4	– 1.9	7.4	3.48	5.4	1,456 –
	Korean War (1950 – 1952)	3	7.6	3.9	3.1	3.7	1.1	9.4	1,649 –
Eisenhower	Korean War (1953)	1	4.0	2.9	2.5	0.8	1.7	13.2	3,547
	Postwar (1954 – 1960)	7	2.2	5.2	1.1	1.5	0.84	9.8	2,514 –
Kennedy	(1961 – 1963)	3	4.0	6.0	1.9	1.1	0.88	8.8	2,572 –
Johnson	Vietnam War (1964 – 1968)	5	4.8	4.2	3.9	2.6	1.1	8.1	2,722 –
Nixon-Ford	Vietnam War (1969 – 1973)	5	3.0	5.0	3.2	5.0	1.14	6.9	2,326 –
	Postwar (1974 – 1976)	3	1.0	7.3	0.5	8.6	2.6	5.5	2,144 –
Carter	(1977 – 1980)	4	3.1	6.5	1.5	9.7	2.4	5.0	2,088 –
Reagan	Reagan buildup (1981 – 1986)	6	2.7	8.1	1.9	5.0	4.7	6.1	2,124 –
	Drawdown (1987 – 1988)	2	4.0	5.9	2.2	3.9	3.25	6.2	2,138 –
Bush	Drawdown (1989 – 1990)	2	1.7	5.4	– 0.3	5.1	3.9	5.7	2,070 –
	Latest	—	2.2	7.7		3.6	4.8	5.8	2,003

(7) tional defense		(8) Personal savings rate (percent)	(9) Money supply growth rate (percent)	(10) Federal Reserve discount rate (percent)	(11) Prime rate (percent)	(12) Real industrial production growth rate (percent)	(13) Industry capacity utilization rate (percent)	(14) Corporate profits	
B Armed forces population (thousands)	C Percent of labor force							A Ratio of profit to sales (manufacturing)	B Percent of profit paid in dividends
40	1.0	4.0	9.9	1.00	1.50	15.2		9.5	67.8
620 – 11,440	11.6	20.6	20.1	1.00	1.50	10.7		4.6	50.8
456 – 3,450	3.3	5.4	– 1.0	1.21	1.75	– 5.2		6.2	50.9
649 – 3,593	4.3	6.9	4.6	1.70	2.54	9.4	84.7	5.4	49.3
547	5.3	7.2	1.0	1.99	3.17	8.6	89.3	4.3	50.6
514 – 3,350	4.1	7.5	2.3	2.63	3.90	2.8	81.9	4.8	46.9
572 – 2,827	3.7	6.3	8.0	3.08	4.50	5.0	80.7	4.5	43.9
722 – 3,534	3.9	7.2	7.6	4.29	5.32	6.7	88.1	5.3	39.4
326 – 3,506	3.3	7.8	8.8	5.53	6.97	4.1	83.3	4.4	46.6
144 – 2,229	2.3	8.3	10.6	6.53	8.50	– 0.7	78.5	5.2	48.9
088 – 2,133	2.0	7.1	6.4	8.74	10.96	3.9	83.4	5.3	45.5
124 – 2,229	1.9	7.5	9.5	9.29	12.47	2.2	77.6	4.1	55.2
138 – 2,175	1.8	4.4	4.5	5.93	8.77	5.2	82.7	5.5	54.4
070 – 2,131	1.7	4.8	4.1	6.96	10.44	1.8	83.1	4.5	71.4
003	1.6	5.3	2.9	3.00	6.50	– 2.0	77.9	2.7	39.4

2

Notes for Tables 2 through 4:

(1) Number of years for period.

(2) Growth rate of gross national product in real terms (1982 constant dollars) – average rate for period.

(3) Unemployment rate – average for period – percent of all civilian workers unemployed.

(4) Per capita disposable income growth rate – average for period in real terms (average annual growth/decline).

(5) Inflation rate (consumer price index) – average for period.

(6) Federal deficit – Federal Government deficit or surplus (deviation from balanced budget) (fiscal years) as a percent of GNP (calendar year) – average for period.

(7) National defense

A. National defense expenditures as a percent of GNP – average for period.

B. Population in Armed Services – peak and low figures for period.

C. Population in Armed Services as a percent of total labor force – average for period.

(8) Personal savings rate – percent of disposable personal income in savings – average for period.

(9) Money supply – average rate of change in money supply during period, using M_1 before 1959 and M_2 from 1959 on.

(10) Federal Reserve discount rate – average for period.

(11) Prime rate – average for period of commercial banks' prime rate. Prime rates for 1947–1948 are ranges of the rate in effect during the period.

(12) Industrial production – growth rate of total industrial production in real terms (1987 dollars) – average annual rate for period.

(13) Industrial capacity utilization rate – average for period in manufacturing sector.

(14) Corporate profits

A. Average ratio of profit (after taxes) to sales during the period for all manufacturing corporations.

B. Average percent of after-tax profits paid out as dividends during period – total dividends as percent of total corporate profits.

Sources for Tables 2 through 4:

Column 2: *Economic Report of the President*, 1991, Table B-2.

Column 3: *Economic Report of the President*, 1991, Table B-32.

Column 4: *Economic Report of the President*, 1991, Table B-27.

Column 5: *Economic Report of the President*, 1991, Table B-62.

Column 6: *Economic Report of the President*, 1992, Table B-74 and Table B-1, *Economic Report of the President*, 1991.

Column 7:

Subcolumn A: from 1940 through 1958: Table B-1, *Economic Report of the President*, 1991; from 1959 through 1990: Table B-1, *Economic Report of the President*, 1992.

Note: The tables in the various Economic Reports of the President can be deceptive, since many figures such as those for GNP are periodically revised (even past numbers) on the basis of census data and various benchmark revisions. But the most recent tables do not always go back as far as our periods require (1940). Therefore, comparing and integrating tables from various years must be done with caution.

Subcolumns B and C:

Note: These two subcolumns provide good examples of the traps and difficulties alluded to above. First, the latest tables of populations of the armed forces in the Economic Reports go back only to 1950. Second, tables from earlier Economic Reports that do go back to 1940 do not agree with these later tables in the years that their coverage overlaps. That is because up through 1983, the tables give the populations for "armed forces." But from 1984 on, they give populations for "resident armed forces." Where the tables overlap for specific years, the numbers are not the same; indeed they can be up to 1 million men apart! There is no explanation (footnote or otherwise) of what the new term "resident armed forces" comprehends, but it is a smaller population than the earlier "armed forces." No notice is given that there has been a change; the user has to be fortunate enough to catch it. Third, since "resident armed forces" do not give us comparable numbers for years prior to 1983 (the 1983 tables go up to 1982), we elected to use the numbers from the Department of Defense annual report for the years after 1982. Although the DoD population numbers are given on a fiscal-year basis, while the Economic Report figures are on a calendar-year basis, they are very nearly alike. Fourth, because of census and other revisions, the numbers for "civilian labor force" (which must be combined with "armed forces" to give a total labor force, from which a percent of total labor force can be derived) are different in the most recent years (1991 and 1992) from those in earlier tables.

Therefore, prior to 1950, the numbers for both "armed forces" and "civilian labor force" are taken from Table B-29 of the 1983 *Economic Report of the President*. From 1950 to 1982, the same table is used for armed forces; from 1983 to the present, Table B-1 of the 1992 *Annual Report of the Secretary of Defense* is used for armed forces totals. From 1950 to the present, Table B-30 of the 1992 *Economic Report of the President* is used for the civilian labor force totals. Subcolumn C is then built from these numbers.

Column 8: from 1940 through 1958, Table B-26, *Economic Report of the President*, 1991; from 1959 to present, Table B-24, *Economic Report of the President*, 1992.

Column 9: from 1940 through 1947, Table D-40, *Economic Report of the President*, 1960; from 1948 through 1958, Table B-59, *Economic Report of the President*, 1978; from 1959 through 1990, Table B- 65, *Economic Report of the President*, 1992.

Columns 10 and 11: Table B-71, *Economic Report of the President*, 1991.

Column 12: from 1940 through 1986, Table B-48, *Economic Report of the President*, 1991; from 1987 through 1990, Table B-46, *Economic Report of the President*, 1992.

Column 13: from 1948 to 1990, Table B-49, *Economic Report of the President*, 1992. Earlier figures were not available.

Column 14:

Subcolumn A: from 1940 through 1945, Table C-30, *Economic Report of the President*, 1950 (based on survey of 106 corporations in durable goods); 1946, Table XXVI, *Economic Report of the President*, 1948; 1947 – 1990, Table B-89, *Economic Report of the President*, 1992.

Subcolumn B: from 1940 through 1989, Table B-87, *Economic Report of the President*, 1991; for 1990, Table B-85, *Economic Report of the President*, 1992.

TABLE 5

Postwar Recessions Related to Scale and Rapidity of Demobilization

Conflict period		Peak war years in terms of			Reduction from peak year (defense as percent of GNP)			Reduction from peak yea (population of armed forc (thousands)		
		Defense as percent of GNP	Population of armed forces (thousands)	Armed forces as percent of labor force	After 1 year	After 2 years	After 3 years	After 1 year	After 2 years	A 3
World War II	Year	1943, 1944	1945	1945	1945	1946	1947	1946	1947	
	New level	41.4	11,440	17.5	34.5	7.7	4.3	3,450	1,590	1
	Amount of change	–	–	–	6.9	33.7	37.1	7,990	9,850	9
Korean War	Year	1953	1952	1952	1954	1955	1956	1953	1954	1
	New level	13.2	3,593	5.5	11.2	9.6	9.5	3,547	3,350	3
	Amount of change	–	–	–	2.0	3.6	3.7	46	243	
Vietnam War	Year	1967	1968	1967, 1968	1968	1969	1970	1969	1970	1
	New level	9.0	3,534	4.3	8.8	8.2	7.6	3,506	3,188	2
	Amount of change	–	–	–	0.2	0.8	1.4	28	346	
Reagan buildup	Year	1986	1984	1980 – 1984	1987	1988	1989	1985	1986	1
	New level	6.5	2,229	1.9	6.4	6.0	5.7	2,152	2,169	2
	Amount of change	–	–	–	0.1	0.5	0.8	77	60	

om peak year f armed forces) .sands)		Reduction from peak year (armed forces as percent of labor force)			First postwar recession year(s) (real decline in GNP)	Severity of recession (real GNP decline in percent)	Lapse time from peak year (percent of GNP) to recession	Monetary and fiscal factors at recession	
ter ears	After 3 years	After 1 year	After 2 years	After 3 years				Federal deficit/ surplus as percent of GNP	Money supply growth rate (percent)
947	1948	1946	1947	1948	1945	- 1.9	1 year	- 22.3	16.5
					1946	- 19.0		- 7.5	- 5.3
					1947	- 2.8		1.7	2.9
590	1,456	5.7	2.6	2.3	-	-	-	-	-
850	9,984	11.8	14.9	15.2	-	-	-	-	-
954	1955	1953	1954	1955	1954	- 1.3	1 year	- 0.3	2.7
350	3,048	5.3	5.0	4.5	-	-	-	-	-
43	545	0.2	0.5	1.0	-	-	-	-	-
970	1971	1969	1970	1971	1970	- 0.3	3 years	- 0.3	13.5
188	2,816	4.2	3.7	3.2	-	-	-	-	-
46	718	0.1	0.6	1.1	-	-	-	-	-
986	1987	1985	1986	1987	1991	- 0.7	5 years	- 4.8	2.9
169	2,175	1.8	1.8	1.8	-	-	-	-	-
50	54	0.1	0.1	0.1	-	-	-	-	-

(2)

KOREAN WAR

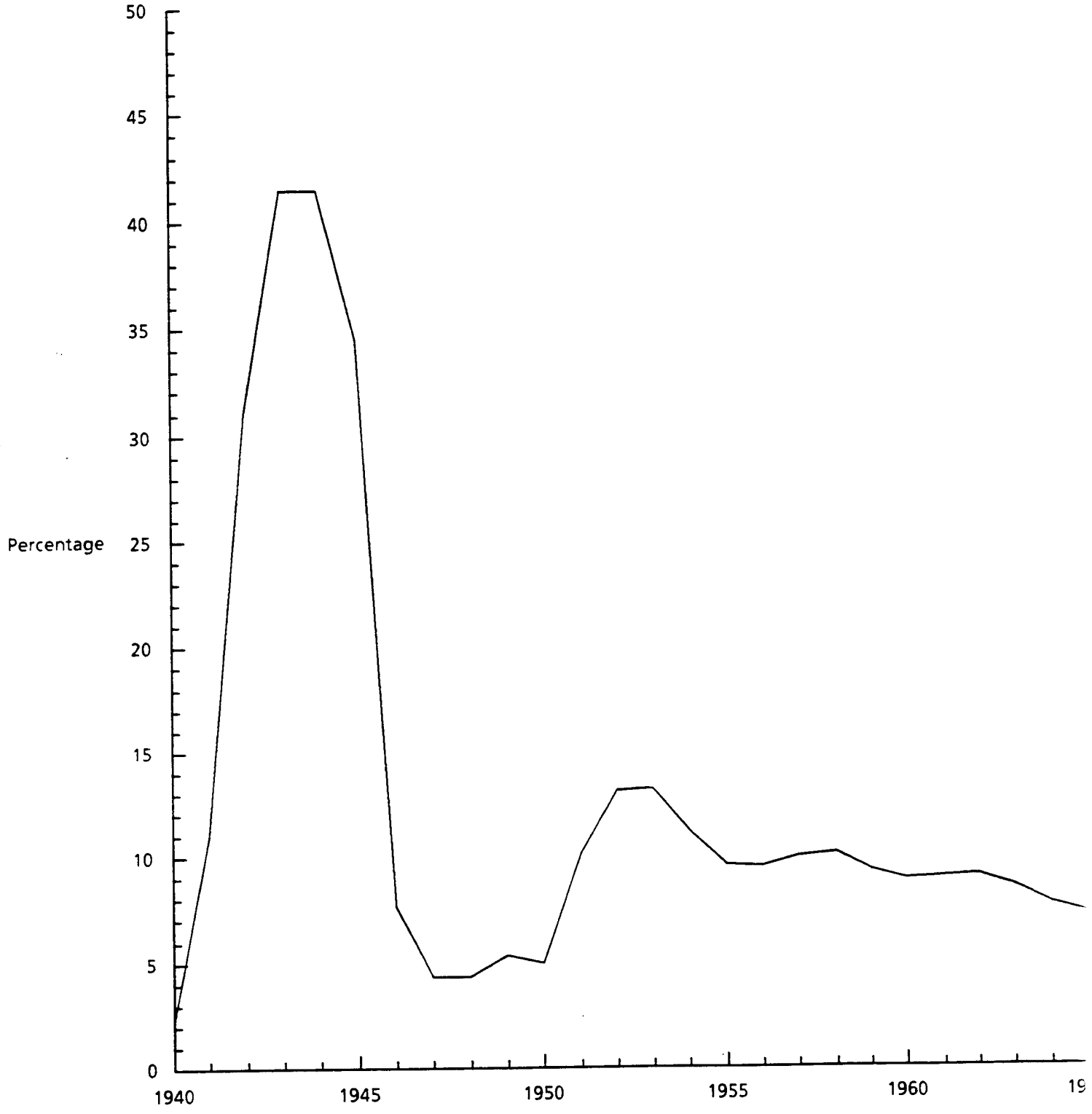
After World War II, "a stampede for demobilization swept the country." Americans did not want to take a cold, hard look at postwar realities in Europe or elsewhere in the world. They wanted the troops home, out of the military, immediately. By 1948, troop strength of the Army had fallen to 552,000.[35] Spending on national defense had fallen to 4.3 percent of GNP from the peak 1944 share of 41.4 percent.[36] In the spring of 1948, a coup d'etat in Czechoslovakia brought in a communist government. The Soviets were putting severe pressure on Finland, and they began to cut Berlin off from the West.

Political leaders responded to the new security situation with cries for increased military preparedness. The Joint Chiefs of Staff believed that a 2 million-man military force was needed, with a 70-group Air Force. President Truman called for a new Selective Service act, which he got – on the same day the Soviets completed their blockade of Berlin. Congress authorized a buildup to a 900,000-man Army by 1949.[37]

Then, incredibly, by the autumn of 1949, the concerns of political leaders over the international situation abated. The new Secretary of Defense, Louis A. Johnson, promised funding cuts of 9 percent for the Navy, 8 percent for the Army, and 3.5 percent for the Air Force. In 1950, defense spending had fallen back to 4.96 percent of GNP, from the previous year's 5.3 percent.[38]

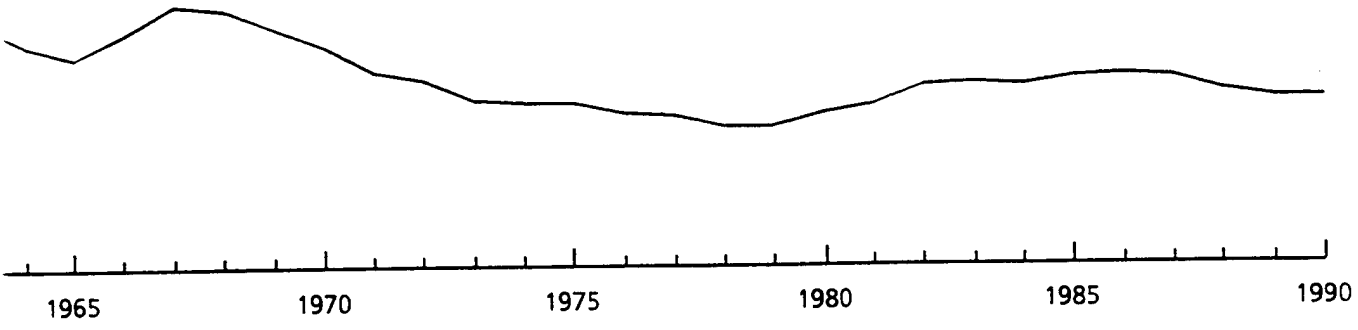
Not everyone agreed with the newly resumed optimism. Chief Justice Fred M. Vinson noted: "We are in troublesome days, days perhaps analogous to those which preceded World War II." On June 25, 1950, the Army of the People's Democratic Republic of Korea (North Korea) crossed the 38th Parallel into the Republic of Korea (South Korea). Within days, the United States was at war. But instead of the planned force of 900,000 men, the U.S. Army numbered 591,000 men.[39]

In some ways, the Korean War military and industrial buildup was simply a smaller version of the World War II mobilization. It was quick and sharp, just as it had been in 1941–1942. Defense spending went from $14.3 billion in 1950 to $33.8 billion in 1951. By 1953 it had more than tripled to $49 billion.[40] In a single year, 1950–1951, the total armed forces doubled (from 1.65 million to 3.1 million).[41] Although the World War II effort dwarfs all others by comparison (see Figures 1 and 2 and Tables 2 through 5 for relative scales of defense buildups and demobilizations in this century), these were not insignificant numbers.

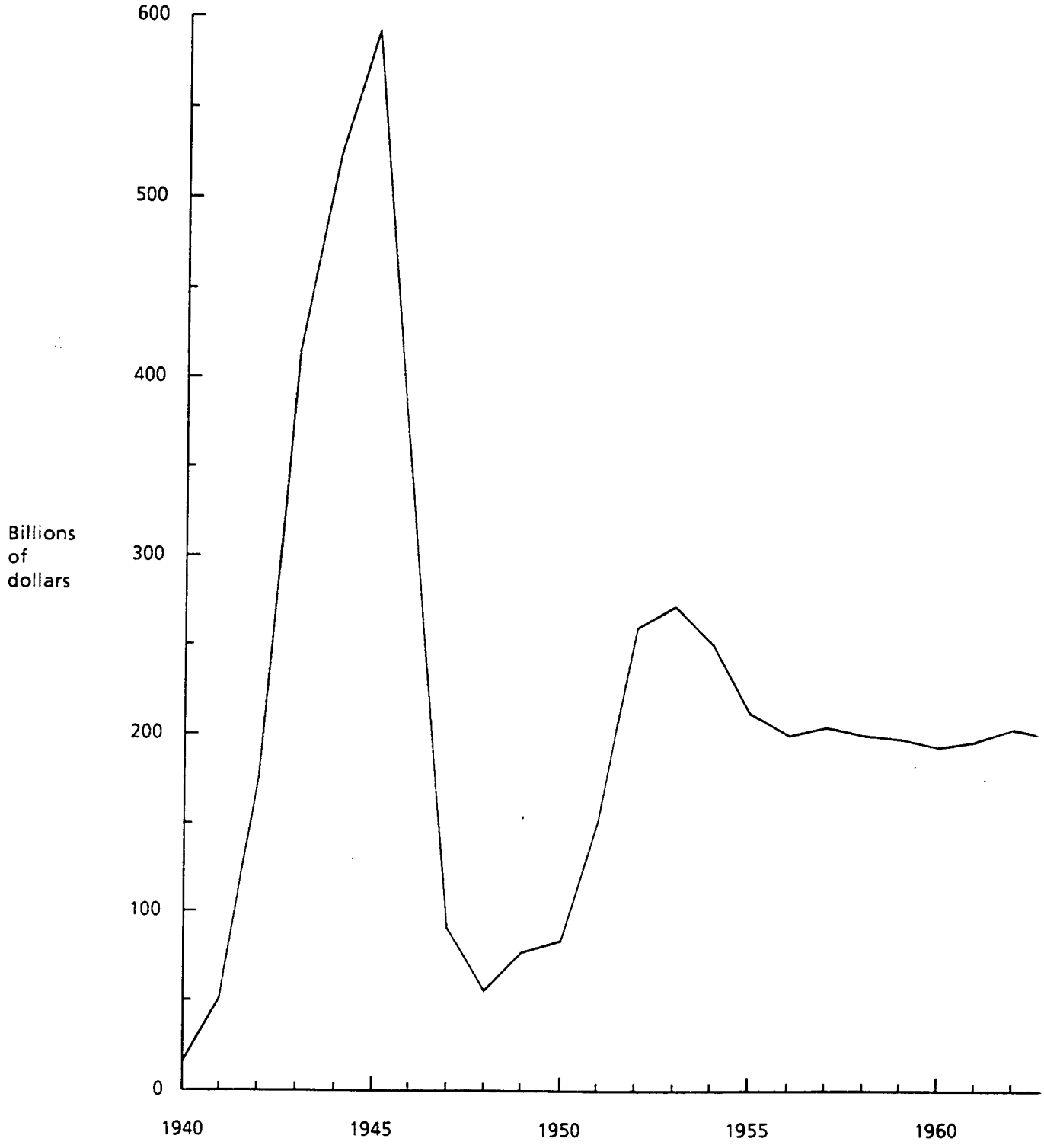


Source: Annual Economic Reports of the President.

Figure 1
U.S. Defense as Percentage of GNP, 1940 – 1990



(2)



Source: 1992 Budget of the U.S. Government, Table 6.1.

Figure 2

U.S. Defense Spending, 1940 – 1990, in Constant (FY82) dollars

(a)

Many of the country's leaders in 1950 had participated in the earlier experience. Truman suddenly became the only American President ever to lead the country in two wars. So it is not surprising that the Administration men and women responded to the new emergency with many of the World War II solutions. Truman centralized the planning and coordination of the industrial mobilization. He appointed the chairman of the National Security Resources Board (NSRB) as chief staff coordinator of the defense effort, including tax amortization policies and loans for defense contractors.[42]

Yet, in many more ways, the Korean conflict was totally unlike the earlier all-out war. World War II was total war, commanding the complete focus and all the resources of the nation. It was a fight to the death. Korea was a war fought, in a sense, as part of a larger conflict. It was a part of something, not the whole of something, and the focus of the nation's leaders was on the whole. To them, the most serious threat was of Soviet action in Europe. It was in Europe that U.S. national interests were most at stake. Therefore the strategy was to fight the war in the Far East with the minimum necessary commitment, while building up gradually for a possible future war with the Soviet Union.

This meant that there was no truly full-scale national mobilization for Korea. In fact the military – especially the Army – opposed calls for full mobilization, because they feared that mobilization would strip vital manpower from the industrial effort needed both for the immediate conflict and for the long haul.[43] Furthermore, in the first month of conflict there was a continuing assumption by policy makers that the war would not last more than 6 months.[44]

Nevertheless, within days after the North Koreans had crossed the 38th Parallel, Truman requested extraordinary wartime powers from Congress. These powers would include the ability to set priorities and allocations to prevent hoarding and nonessential use of critical war materials; authority to review all Government programs and to eliminate unnecessary Federal use of services and materials needed for the military; authority to set curbs on consumer credit for commodity-market speculation; and authority to make Federal loans and guarantees if necessary to stimulate military production and the stockpiling of strategic materials. Significantly, Truman asked Congress to support the buildup completely on a pay-as-you-go basis. He was determined that there would be no massive budget deficits as in World War II. This time, inflation would be controlled. Tax increases were requested. Truman asked for authority to impose wage and price controls and rationing if inflation began to get out of hand despite the measures taken.[45]

Congress gave him everything he wanted. As one observer noted: "Republicans were tripping over Democrats in their eagerness to give President Truman what he thought he needed to win in Korea and prepare for the next Korea, whenever or wherever it might turn out to be." In September of 1950, Truman signed the Defense Production Act, authorizing him to impose rationing and credit restrictions, make allocations, grant production loans, establish priorities, and control wages and prices if necessary. Two weeks later, he signed the Revenue Act of 1950, designed to raise $4.7 billion that fiscal year by raising corporate and personal income tax rates and some excise rates. And there was an additional $11 billion appropriated for the military establishment, which was to be built up to a permanent force of 3.2 million men and women. Suddenly the country was fiercely determined never to be caught off guard again. [46]

As the mobilization of men and materiel proceeded, Truman appointed W. Stuart Symington, the head of the NSRB, to act as the general chief of the economic aspects of mobilization. The National Production Authority was established to set priorities and allocations, and the Economic Stabilization Agency was established to kill any inflationary trend in its infancy.

The latter failed. The first response of housewives, motorists, and other consumers, and of industry as well, was panic buying. Everyone anticipated shortages. The result – inflation. Almost within hours of Truman's orders sending troops to Korea, prices exploded upward. In the first month of combat, the price of sugar rose 5 percent; coffee, 9 percent; print cloths, 18 percent; tin, 26 percent; and rubber, 27 percent.

Yet Truman and his chief economic adviser, veteran New Dealer Leon Keyserling, could not bring themselves to resort once again to the elaborate World War II system of wage and price controls and rationing to check the inflation. They believed they could halt the price rises through monetary and credit controls to curtail consumer credit and loans for housing. And the President believed he could use moral persuasion with industry and labor to keep wages and prices down.

He was wrong. By the end of September, the prices of 28 basic commodities were up 25 percent from levels at the outbreak of war in June. Under Secretary of the Air Force John A. McCone testified to a congressional committee that inflation would cost the Air Force the equivalent of 750 jet fighters in that fiscal year alone. [47]

Industry was operating flat out. Steel firms were producing at peak capacity and could not keep up with orders. Neither could the benzene

producers or the railroad companies or a host of others. Virtually everyone was doing well, except for construction companies, which suffered under tight restrictions targeted against housing and other nonessential construction.

Profits soared. Even with increased taxes, the profits of 500 major corporations went up an average of 50 percent in the third quarter of 1950, compared to the same period in 1949. United States Steel had its best year since 1917. Bethlehem Steel had its most profitable year ever.

Wage earners shared in the boom. Demand for many skilled tradesmen, such as machinists and aircraft workers, shot up and so did their wages. Chrysler Corporation gave its workers a substantial pay increase in August 1950 to keep them from being bid away by other companies. The Chrysler wage hike touched off similar moves throughout industry. And many workers had cost-of-living increase provisions as part of their union contracts. Unemployment fell.

In October, as United Nations forces approached the Yalu River between North Korea and China, Chinese Army units crossed the river and made contact. The UN advance stalled. Americans held their breath. Then, as suddenly as they had appeared, the Chinese mysteriously were gone. It looked as if the short war might indeed be over.

But in the last days of November, the Chinese Army hit the UN forces with massive human-wave assaults, and the UN advance crumbled, turned into a retreat. Behind the Chinese action, most Americans at the time saw the directing hand of the Soviet Union.

On the evening of December 15, 1950, Harry Truman sat down before microphones and a television camera in the White House. To the American people, he said:

> Our homes, our nation, all the things we believe in, are in great danger. This danger has been created by the rulers of the Soviet Union.... They have tried to undermine or overwhelm the free nations one by one. They have used threats and treachery and violence. [By their aggression in Korea] they have shown that they are now willing to push the world to the brink of a general war to get what they want.[48]

Truman told the nation to prepare to help "other free nations," to enlarge the armed forces dramatically, and to expand the national economy. He told the people that civilian goods production would be cut back while the economy expanded to meet military production. Federal

nonmilitary expenditures would be cut. He called for a fivefold increase in aircraft production in the next year. Production of tanks and other combat vehicles would increase by four times and electronics equipment by four-and-one-half times. He called for women, young people, and older people to go to the war production factories and to work longer hours. The armed forces would be brought to 3.5 million men and women as soon as possible.

The next day, Truman formally declared the existence of a national emergency under the Defense Production Act, permitting expedited contracting for war production. He announced the creation of a new Office of Defense Mobilization (ODM), headed by Charles E. Wilson, president of General Electric. The ODM, taking over the duties of the NSRB, would have authority to impose wage and price controls immediately in some areas critical to defense production. In other areas of the economy, fair wage and price standards would be established for voluntary compliance. But the threat existed that if these were violated, mandatory controls would follow.

Once again Congress gave Harry Truman all he asked for. With only one dissenting vote, an emergency appropriation of $20 billion for the armed forces was passed. An excess profits bill was passed with the goal of producing $8 billion in revenue over the next 2 years. Bills for civil defense and secret weapons sailed through Congress. And portions of the War Powers Act of 1941 were restored to permit renegotiation of Federal contracts to allow for increasing costs.[49]

Shortages began showing up throughout industry, because of the diversion of production to the war effort. A shortage of fabricating metals in December 1950 idled 100,000 workers in Detroit. Demand for sulphuric acid for steel, petroleum, and fertilizer production outpaced the supply, and production was stymied.

Inflation ripped through the economy like a hurricane. In the 18 days between Truman's speech of December 15, 1950 and January 2, 1951, the cost of living increased 1.2 percent. By January, prices for such industrial raw materials as cotton, wool, rubber, and scrap steel were up 58 percent from their levels at the outbreak of the conflict in June. On January 26, 1951, the President finally issued orders to freeze the prices of most commodities at their highest levels reached between December 19, 1950, and January 25, 1951, while wages and salaries could not exceed their levels as of the latter date. But the staff and mechanisms for enforcement were not in place, and prices continued to rise, although at a less dramatic pace.

The boom in the economy, fueled by the extraordinary defense spending, continued on through 1951 and 1952. Corporate profits remained at record levels, as did disposable personal income. By October 1951, unemployment had dropped to 2.5 percent of the civilian labor force, the lowest it had been since 1944.[50]

Indeed, as a careful review of Table 2 reveals, the Korean War was a period of almost extraordinary economic prosperity for most Americans. Annual real growth in GNP was very strong, reaching 10.3 percent in 1951. Unemployment in 1953 was the lowest it would be for the next 40 years. And real per capita disposable income continued to grow despite the surge of inflation in 1951.[51]

The Truman Administration policy makers believed that the long-term threat to prosperity was runaway inflation. They tried to keep the lid on during the war with wage and price controls. But, more important, Truman broke with the World War II precedent by paying for the war with dramatic corporate and personal tax increases, rather than massive budget deficits.

In the years before the war, Truman had fought inflationary pressures with a tight fiscal policy. The Federal budget ran surpluses in 1947, 1948, and 1949. He tried to maintain that policy in the 2 years of the Korean War that fell under his leadership, managing another surplus in 1951. In the entire period from 1939 to the present (53 years), the Federal budget has been in surplus only 8 years. Four of those years were under Truman. In 1950 and 1952, the budgets ran minor deficits and were essentially balanced. In 1953, the new Eisenhower Administration brought the war to a close with a deficit of $6.5 billion, only 1.7 percent of that year's GNP. In 1954, the first full year of peace, the deficit had fallen to only $1.2 billion, or 0.3 percent of GNP. This budgetary discipline by Truman and Eisenhower stands in dramatic contrast to the massive deficits run during World War II.[52]

Demobilization

Unlike the period following World War II, the aftermath of the Korean War did not see the drastic demobilization of troops and defense spending cuts (see Table 5 and Figures 1 and 2). At the peak of the war in 1953, national defense spending had risen to 13.2 percent of GNP. Three years later it was still at 9.5 percent of GNP, a reduction of only 3.7 percentage points. This was about double the defense spending levels immediately prior to the war (4.96 percent).[53] The armed forces went from 3.6 million in 1952 to 3.0 million in 1955.[54]

The new higher levels of national commitment to defense spending in the aftermath of the Korean War, by an Administration that had won election promising to end that war, reflected a new national consensus among leaders and the public that the world was indeed a very dangerous place and that the United States must be truly prepared to defend itself and its vital national interests in that world. The low national investments in defense between World War I and World War II and World War II and the Korean War were now generally viewed as not only folly, but even causes of the subsequent conflicts and tragedy. These low national commitments to defense were regarded as having been invitations to tyrants to perpetrate their worst in the world. The nation and its leaders were determined not to let it happen again. A strong military and the avowed willingness to use it were now regarded as one of the most effective deterrents to new war. The Cold War was on in earnest.

As a result of this new commitment, the nation launched a major effort to build up a war materials stockpile and maintain its defense industry. This kept defense production relatively high. Furthermore, production had already tapered off from its peak in September 1952, just as American industry had actually begun to demobilize long before the close of the Second World War. Defense-related employment had actually peaked several months before the production peak, after the rapid buildup of facilities and machine tool projects.[55]

Additionally, unlike the World War II demobilization (when almost the whole of defense production was reconverted to commercial activities), after the Korean War many firms stayed on in the defense industry to supply the larger, more permanent armed forces with more complex and sophisticated weaponry. Therefore, not the whole of defense production needed to be converted back to civilian production.[56] In fact, the reduction in defense spending in relation to the overall economy after Korea was one-tenth the size of the post-World War II conversion. Thus, at the close of the Korean War, the transition from war to peace was not as extreme as the one after World War II.

Transition Assistance

Nevertheless, even this much more modest demobilization was not without pain. From 1953 to 1956, defense industry cut an estimated 1.6 million defense workers from its rolls, the military was reduced by 700,000, and 150,000 DoD civilian jobs were cut. No special Federal programs were in place to help defense workers or companies to make the transition to the civilian economy. Veterans got roughly the same

transition benefits as their World War II counterparts. The Korean GI Bill was enacted in 1952. About 43 percent of separated veterans took advantage of the law to attend college or to receive vocational or job training.[57]

Although the Federal budget was essentially in balance throughout the war, rationing and price controls – plus the deferral of nonessential construction and public works projects – had created some pent-up demand.[58] Employment was relatively high during the war years; unemployment among the civilian work force fell from 5.3 percent in 1950 to 2.9 percent in 1953. Per capita disposable income rose a modest 17 percent (5.6 percent in real terms) between 1950 and 1953.[59]

Savings by individuals (checking accounts, currency, and savings accounts) almost doubled (93 percent increase) between 1950 and 1952.[60] Corporate (nonfinancial businesses) net profits jumped in 1950 and stayed at historically high levels over the remaining war years. Most of these profits were retained in the company and not paid out as dividends.[61]

With reasonably high employment and income, high savings rates, relatively high corporate profits, and balanced budgets, one might expect – as occurred after World Wars I and II – that business would boom (with perhaps rising inflation) after the Korean War. Instead, the first full year of peace (1954) saw a mild recession. GNP grew by 0.2 percent for the year, but this was a decline of 1.3 percent in real terms.[62] The civilian unemployment rate jumped from 2.9 percent in 1953 to 5.5 percent in 1954.[63] Industrial production declined.[64]

Common sense would suggest that wartime production levels in high-stake wars – such as World War II or even Korea – driven by a sense of emergency or even national survival, are artificially high. They cannot be sustained in peacetime, normal conditions. The high levels of wartime production cannot all be converted to similarly high levels of civilian production. Therefore, even with the best of planning for conversion (as was witnessed in World War II), there will be a falloff from the peak, almost frenzied levels of the war. Unless conversion from defense to civilian production takes place with great rapidity, and near-miraculous breakthroughs in productivity (such as dramatic new technical advances) have occurred during the war years, postwar economic outputs will be smaller than wartime outputs. Indeed, this is exactly what happened after World War II and again after the Korean War. The postwar real declines in GNP are declines from artificially high levels.

In the end, however, it can be said that the transition to peace (or cold war) after the Korean War was a success. It was a success because there was disciplined management of the economy during the war and aftermath and because the war itself was kept within the bounds of a partial mobilization that did not seriously tax the civilian economy or require radical reconversion afterwards. It was, at least by comparison to World War II, a "guns-*and*-butter" war.

VIETNAM WAR

There was no Pearl Harbor or crossing of the 38th Parallel in the Vietnam War, no precise moment of shock leading to a dramatic national response. The war began almost unnoticed and simply grew; no one knew how big a war it would be or when it would end. The contrast with the Korean experience is dramatic. Johnson thought that he could both accomplish his Great Society domestic agenda and fight the war at the same time. To Doris Kearns he said: "I was determined to be a leader of war and a leader of peace. I wanted both, I believed in both, and I believed America had the resources to provide for both."[65]

Therefore, in stunning contrast to the management of the Korean War and the mobilization for it (and that of World War II), no high command was ever established in Washington to coordinate all the military, economic, intelligence, and political programs. Johnson never put the economy on a war footing. He never called up the reserves, so that fighting forces could be sent quickly to the theater. (Unlike reservists, draftees had to go through a long period of training, thus greatly delaying the speed with which they could be sent into combat.) Thus the "mobilization" was stretched out.[66]

By Korean War standards, the mobilization for war was almost imperceptible, undercover. Figures 1 and 2 show the more gradual evolution of the war, compared to the sharp, sudden mobilization of the country for combat in Korea. The highest month for military inductions during the Korean War was January 1951: 87,053 men were called. By contrast, for Vietnam the record month was October 1966; during which 49,481 men received draft notices. Between the second and third quarters of 1950, military manpower jumped by almost 30 percent; that compares to a maximum increase for the Vietnam War of 4.9 percent, between the third and fourth quarters of 1965.[67]

One reason for the lack of a sudden, wrenching mobilization for Vietnam (in contrast to Korea) is, of course, the fact that the nation was already at a much higher level of military preparedness from which to

spring. That was, in fact, one of the legacies of the Korean War. Whereas defense spending doubled from about 5 percent of GNP to 10 percent in the first year of the Korean War, then rising to 13.2 percent by 1953, at the onset of the major intervention in 1965 defense spending was already at 7.2 percent of GNP, rising to 9 percent in 1967. This was basically simply a return to the very high levels that had prevailed throughout the Eisenhower and Kennedy Administrations (averaging 9.8 percent and 8.8 percent, respectively). (See Tables 2 through 4.) Similarly, the armed forces numbered 2.7 million in 1965, compared to only 1.6 million in 1950.

But whereas the Vietnam War commandeered a smaller portion of the overall economy than did the Korean War, it was imposed upon a nation already approaching maximum output and employment. In 1950, unemployment stood at 5.3 percent and industry was operating at 82.8 percent of capacity. There was a great deal of slack that could be taken up as the nation surged for war production. Korean War production was an addition to, not so much a detraction from, the civilian economy. That was not true for Vietnam. In 1965, unemployment was 4.5 percent and industry was operating at effectively full capacity, almost 90 percent. When production for the war accelerated, it had to come at the expense of some civilian production if inflation was to be avoided.

But, also unlike the managers of the Korean War, the Johnson Administration did not impose wage and price controls, nor did it raise taxes to pay for the war (and thereby diminish demand in the civilian sector). Although a tax surcharge was eventually imposed, it came late in the war and was minor and brief. The result was inflation.[68] In 1964, inflation was running at 1.3 percent. By 1966, it was 2.9 percent, and it kept rising throughout the war, hitting 5.7 percent in 1970. After a couple of years of diminished price increases (due to Nixon Administration wage and price controls), it soared again in 1973 and then hit 11 percent in 1974. Aggravating this already inflationary pressure, the Federal Reserve was increasing the money supply at extremely high levels from 1961 on, averaging 8 percent under Kennedy and 7.6 percent under Johnson. (This compares to an average during the Eisenhower Administration of 1 percent in 1953 and 2.3 percent during the rest of the decade. See Table 4.)

It is difficult to say how much of the war-inflation was built into the extraordinary 1973–1975 inflation rates during the Vietnam War drawdown under Nixon. Other things were happening as well, including the 1973 Arab-Israeli War and the resultant oil embargo and oil price shock. But most importantly, the Federal Reserve's easy

monetary policy produced money supply increases of 13.5 percent in 1971 and 13 percent in 1972, the highest increases since World War II.

Fiscal policy of both the Johnson and Nixon Administrations moved in the same direction as monetary policy. Federal budget deficits were run in every year except 1969, in which a minor surplus was registered. In 1970 and even stronger in 1974–1975, recessions hit the economy. Unemployment rose from its low in 1969 of 3.5 percent, reflecting the Vietnam buildup, to 5.9 percent in 1971 and 8.5 percent in 1975. By 1975, only 73.2 percent of industrial capacity was being used, the smallest amount since the Great Depression.

Thus, during the period of the drawdown from the Vietnam War, the overall economic climate of the country was very unhealthy. It was even worse for those sectors of the economy that had seen the largest concentration of the Vietnam War buildup – primarily the aircraft, ordnance, and transportation industries. These three sectors had received 40 percent of the war-generated employment increase.[69] Furthermore, Vietnam-related production occupied high portions of key industries, such as ordnance (42.3 percent of total industry employment), aircraft and parts (27.3 percent of total industry employment), machine shop products (14.4 percent), electronic components, and transportation equipment other than aircraft (both 11.1 percent of total industry employment). Among services, defense-related employment was 11.8 percent of the transportation and warehousing industry.[70]

Not surprisingly, when the war started to draw down, beginning in 1968, these industries were hit extremely hard. Defense purchases in 1970 were 18 percent below their 1968 peak. In the aircraft and parts industry, employment fell by 187,000 between the third quarter of 1968 and the third quarter of 1970. That was a drop of 21.9 percent of overall industry employment. Ordnance suffered a decline of 30.2 percent during the same period.[71] Overall, defense-related industry employment declined from 3.2 million to 2.0 million people in 1972.[72]

The postwar shock was aggravated by two critical factors. First, as we have noted, the economy was not managed well by any of the postwar administrations. There was little room for new labor and production in the civilian sector; the defense producers could not be accommodated. Second, defense production had become so specialized over the years between the Korean War and the Vietnam War that defense firms could not directly transfer their military production skills to civilian markets. Simply put, much defense production was oriented toward very high performance at high unit cost; civilian production was biased toward lower performance, low unit cost. Many of the attempts

by defense manufacturers to employ their defense engineering and production talents (which were considerable) in engineering and production for new civilian markets were not successful.[73]

Transition Assistance – General

In contrast to the Eisenhower Administration's total rejection of planning for conversion after the Korean War, the Johnson team made some effort to prepare for a postwar transition. Johnson established a Cabinet Coordinating Committee on Economic Planning for the End of Vietnam Hostilities. The committee considered a range of transition actions, including a tax reduction; adjustments in monetary and financial policies; and expansion of Government expenditures such as those for public works and long-term health, education, and environmental programs. The committee concluded that some offset to the decline in defense spending would be needed to avoid a postwar recession. Basically, the committee members believed that the best course would be an expansion of Federal civilian programs rather than tax cuts. In addition, the members emphasized strengthening job placement and training programs. But actual implementations of the committee's recommendations were minimal.[74]

The Nixon Administration also attempted to address postwar transition. In 1971, Nixon established the President's Economic Adjustment Committee to plan for the aftermath of the Vietnam War. The committee included representatives from 18 Federal departments and agencies, chaired by the Secretary of Defense. The permanent staff for the committee's work was provided by the Defense Department's Office of Economic Adjustment (OEA), which had been established in 1961 to help communities deal with the impact of military base and defense plant closings.[75] Principal assistance from the office was in the form of community planning. Usually, at the request of a local community to the Secretary of Defense, an OEA team would visit the community and assess its strengths and weaknesses. If a base was to be closed, a survey would be made to determine how the base might be adapted for nonmilitary use. The team worked with community leaders to formulate a plan for economic recovery. As part of the plan, the team would help identify for local leaders all local, state, and Federal projects and sources of funding that might help in the community transition.[76]

As with the creation of OEA in 1961, other programs were launched in the early 1960s that would later prove helpful in easing the transition out of the Vietnam War. The Area Redevelopment Act of 1961 provided general aid to displaced workers, whether they were from defense or civilian companies. Up to 16 weeks of training were

provided to unemployed and underemployed workers in depressed areas. Displaced workers were paid an amount equal to the average unemployment compensation during the training period. The Manpower and Development Training Act of 1962 initially provided up to 52 weeks of pay to displaced workers, regardless of locale. That act was subsequently amended several times to increase the amount of pay and weeks of support. The Trade Adjustment Assistance Act of 1962 provided cash benefits, training, and related services, including relocation assistance. The program was revised under the Trade Act of 1974. Under the revised Act, weekly benefits were calculated at 70 percent of a worker's weekly wage or the average manufacturing wage. To receive benefits, a petition had to be filed on behalf of workers, demonstrating that the layoff was caused by import competition. All of these programs provided benefits in addition to unemployment insurance. By the early 1970s, approximately 29 different federally funded programs were available to help various categories of displaced workers.[77]

One program specifically targeted for Vietnam transition assistance was the Technology Mobilization and Reemployment Program of 1971, launched to address the post-Vietnam reduction in aerospace and other defense-related employment. The program, especially concerned with an anticipated surplus of engineers, scientists, and technical personnel, provided workshops on job opportunities, counseling on career planning, and guidance in preparing resumes. On-the-job training and short skill development courses were also available. More than 532,000 individuals took advantage of this 2-year program.

An example of the interaction of Federal programs is provided by the 1972 termination of construction of the ABM Safeguard site in Conrad, Montana, as a result of an arms-control agreement. At the same time, a nearby smelter and wire mill closed. Unemployment in the area doubled. A Department of Labor discretionary grant permitted the state to offer relocation and job search assistance. Simultaneously, an Economic Adjustment Committee interagency task force secured funds for economic development efforts such as road and water projects, facilitated low-interest loans to local small businesses, and helped the community convert ABM site facilities to industrial uses.[78]

And for veterans, there was again a GI Bill. Although less generous in real terms than its World War II counterpart, the Vietnam era GI Bill served 8.2 million veterans, about 61 percent of those eligible (in comparison to a participation rate of about 43 percent for the Korean bill and about 50 percent for the World War II version). The program

cost about $6 billion in 1991 constant dollars and required veterans to pay for part of their education or training (this compares to about $85 billion (1991 dollars) for the World War II program and about $20 billion (1991 dollars) for the Korean veterans).[79]

Selected Post-Vietnam War Federal Transition Assistance Programs

In the overview of assistance programs above, we have noted some of the major forms of Federal aid available to defense workers, communities, and veterans affected by the drawdown from the Vietnam conflict. The community assistance programs of the DoD Office of Economic Adjustment and the later-initiated President's Economic Adjustment Committee are fairly well known and continue today. Also, the GI Bill-type package of benefits and veterans' assistance are familiar and well-studied. Roughly comparable assistance and "outplacement" benefits are available to current military and civilian personnel being released from DoD service.

But what about defense workers? In the first place, clearly, the fate of defense workers is bound up with the fate of their companies. If defense companies are able to find alternate work and markets to replace military business lost because of the drawdown, and to the extent that the new business provides an opportunity to continue the employment of the defense workers associated with the lost military business, then all is well. But if no new work can be successfully substituted, or if the new work is not enough or of a kind to permit the continued employment of the former defense workers, then the defense workers will be laid off, or "displaced."

Displaced defense workers have not been the direct beneficiaries of extensive Federal assistance during past drawdowns, and rarely have they been the specific targets of a Federal transition assistance program. Of course, as we noted above, one strategy of assistance to workers is to assist their companies first, so that the need for mass layoffs does not arise. If the good defense companies are robust and thriving in expanded commercial and/or other-Federal markets, fewer workers will end up in need of assistance.

The Assistance Program Approach – The TMRP

One strategy for helping defense workers who do become displaced involves some form of direct personal assistance to the worker, sponsored through a Federal program operated by Government employees. Programs of such assistance originated in the early 1960s,

although most were not targeted specifically at defense workers. We have briefly identified and discussed several of these programs, such as the Area Redevelopment Act, the Manpower and Development Training Act, and the Trade Adjustment Assistance Act, later amended by the Trade Act of 1974. We shall now focus in more detail on one post-Vietnam displaced worker Federal assistance program: The Technology Mobilization and Reemployment Program (TMRP).

The Technology Mobilization and Reemployment Program of 1971 provided assistance to defense company scientists, engineers, and technical workers displaced as a result of the Vietnam War drawdown. As a Federal assistance program targeted specifically at displaced defense workers (at least one subset of them), it is unique.

The TMRP provided workshops of job opportunities, counseling on career planning, and guidance in preparing resumes. Job search grants, on-the-job training, and short skill development courses were available. Additionally, Federal funds supported staff personnel in state employment service offices.[80]

One of the efforts sponsored under the TMRP was a study contracted by the Department of Labor with the National Society of Professional Engineers (NSPE). NSPE organized teams of unemployed aerospace engineers to investigate job markets in 14 high unemployment cities. The teams examined potential employers' needs in 21 fields such as medical services, criminal justice, food products, and transportation. In the process, the engineers identified 55,000 job opportunities.

In a follow-on contract with NSPE, aerospace engineers and scientists were retrained for jobs in 11 industries with good job opportunities, including food products, health care, transportation, power resources, pollution control, solid waste, educational technology, and occupational safety. Of the 329 people enrolled, 302 found employment, most in the occupations for which they were trained.

The NSPE training and employment project dispelled some myths about aerospace engineers and technical personnel:

- Employers had thought defense aerospace engineers were more highly paid than they actually were. Employer expectations had been for salaries in the $25,000 area, whereas the NSPE participants were making about $16,000.

- Many employers believed aerospace engineers would be too specialized to be able to adapt to commercial work. The program

convinced many employers that defense aerospace experience was more an advantage than a disadvantage.

- Employers expected defense engineers to be too old. The average age of participants was 45.4 years, but the retrained aerospace engineers took less time to become productive than new college graduates.

- Employers believed that aerospace engineers would return to defense work as soon as they could. Only one-third of the unemployed engineers did in fact return to the aerospace business.[81]

When the TMRP began, an estimated 75,000 to 100,000 engineers, scientists, and technicians were already unemployed. When the program ended 2 years later, more than 532,000 individuals had registered for TMRP services; 32,000 participants were known to be reemployed; and $28 million had been spent. That is approximately $824 per person reemployed.[82]

Are these good numbers? The first problem in answering this question for the TMRP is that we do not know to what extent those engineers who participated in the program and got rehired owe their rehiring to the program. We cannot even answer the basic question: Did subsequent rehiring take place because of, or in spite of, the program; in other words, did the program hinder or help those trying to find new jobs? Or did it have no effect at all; would the engineers who became reemployed have gotten jobs anyway, and as quickly, with or without the program? We do not know from the information available.

If 532,000 people participated in the program over 2 years, and only 32,000 were known to be reemployed, that is a 6 percent "success" rate. Is this a good result for $28 million (in 1972 dollars)? One test of the result would be to compare it to the average result for displaced workers in the economy generally, the overwhelming majority of whom will have received no formal program assistance whatever. About 2 million people lose their jobs in the United States economy every year as a result of permanent plant closings and downsizing. That is the "normal" turnover of jobs in a dynamic, growing market economy. The average unemployment period for those workers is 3 to 6 months; 85 percent of the displaced workers have found new employment within that time. And the new wages are roughly as high as the old wages for these rehired workers; the average new wage for the rehired workers is 90 percent of the old wage for blue-collar workers, and 97 percent for white collar workers.[83] Against this "average," the TMRP performance does not look impressive. However, we really do not know whether

others among the 532,000 participants were eventually reemployed. So, the "success" rate of only 32,000 is not particularly meaningful.

If we focus on displaced workers more similar to the TMRP engineers, rather than a general population average, what are the reemployment results? A 1967 study of 1,200 engineers and scientists discharged from 62 aerospace companies in the San Francisco area between 1963 and 1965 found that 78 percent had found reemployment within 25 weeks.[84] The average duration of unemployment for all of these aerospace workers was 14.4 weeks.[85] A similar 1966 study of 500 displaced scientists and engineers in the Boston area found the average unemployment duration to be 12.2 weeks for these workers.[86] About 77 percent had been reemployed within 25 weeks.[87] We do not know the comparable figures for TMRP participants; we know neither their average unemployment duration nor the percent who were reemployed within 25 weeks of completing their participation. But if it is true that at the end of 2 years of the TMRP only 6 percent of participants had been reemployed, then this would seem singularly unsuccessful in light of the San Francisco and Boston experiences.

Another way to assess the TMRP would be to look at the specific program elements to try to determine whether these were effective selections for types of assistance. The TMRP emphasized job information and some minimal training for the laid-off engineers. And, indeed, labor market information has been the most important factor in helping displaced defense workers to find jobs. Unfortunately, the formal or organized channels of labor market information have been generally ineffective. For example, the San Francisco engineers found that contact with state or commercial employment agencies was less than one-third as likely to produce a job as was direct application. The only channels of information the engineers found to be less effective than employment agencies were professional societies and trade or professional magazines.[88] Similarly, in a study of laid-off Boeing Company workers, the workers indicated that, as of 1½ months after the layoff, 32.5 percent of the jobs found were obtained through direct application, 22 percent through friends and relatives, and 11.6 percent through advertisements.[89] On the basis of these findings, we might conclude that the TMRP approach, to the extent that it relied on funding staff in the state employment agencies, was misplaced in its emphasis.

The training emphasis of the TMRP also appears to have been inappropriate. In general, retraining programs do not appear to have much relevance to the transition problems of defense workers. In general, defense workers are better educated, younger, and more skilled than the work force at large.[90] In one study of technical and

production workers engaged in missile production, retraining needs were minimal. Of 121 defense occupations analyzed, only 22 appeared to need any retraining for their skills to be readily employable outside defense.[91] And defense engineers in particular do not usually require formal retraining. Instead, they generally need only on-the-job training in their new positions to make the switch successfully from defense to nondefense employment.[92]

In conclusion, we may say a few things about the TMRP. First, there is not enough information about the overall eventual reemployment rate of participants in the program to know what the true "success" rate was. Nor do we really know whether the known rehire rate was in any way a result of the program. However, we do know that the stated rehire rate compares very unfavorably with the rehire experience of displaced workers in general in our economy, with and without assistance, and with the general rehire rate of displaced defense engineers and scientists specifically. Finally, the use of state employment agencies seems to have been an improper choice, as was retraining courses for engineers, who are better served by on-the-job training in their new positions.

The more fundamental problem with programs such as TMRP is that they presume that Federal, state, or local civil servants will be able to respond to worker displacements in a timely manner with training and other assistance that is relevant to the worker. In actuality, by the time a program and its funding have worked their way through Congress and Federal and state bureaucracies down to the field office in, say, Roanoke, Virginia, the odds are virtually nil that the assistance provided will in any way match the true needs of a specific group or groups of displaced workers and potential employers of those workers.

The Business Incentives Approach – Tax Code Section 51

Another strategy, that might have significant advantages over the Federal program approach, would employ tax incentives for companies to hire and train (if necessary) displaced workers. In a sense, displaced defense workers would be given a "voucher" which a hiring company could use to write off for tax purposes a portion of the worker's salary and any necessary subsequent training, thus reducing the hiring company's taxes.

There may be some advantages to this approach over the program approach. First, in the tax incentives approach, the displaced worker suddenly becomes much more valuable and attractive to any potential

hiring company, at least in comparison to other workers without the incentive. That is likely to induce more interest on the part of companies all over the country to seek out and hire those workers. Thus the worker is not left completely on his or her own to find work. Both workers and potential employers are actively scouting. Second, the training that is actually provided to the hired worker will be selected by the new employer to match exactly what the worker needs for his new job. Furthermore, the company will select the best available trainer for the new worker, because it is clearly in the company's interest to get the best and most relevant training available for the new employee. Finally, the tax incentives approach would complement, rather than compete with or duplicate, any outplacement assistance that the downsizing defense company might provide to its displaced workers. Thus, for these reasons the tax incentives approach is likely to be more efficient and effective than most program approaches, if the goal is to get displaced defense workers hired quickly and their skills upgraded with effective and relevant training.

Although the tax incentives approach obviously reduces the amount of tax revenue collected by the Government, this cost is offset to some extent by the reduction in unemployment insurance paid and by the revenues that accrue to the Government from the taxes paid by the newly hired workers (if the incentives induce hiring that otherwise would not have taken place or would have taken place less quickly). Instead of having displaced workers acting as a drain on the Treasury through income-maintenance assistance, the quickly hired workers will be paying taxes. The costs can be further offset by a reduction in the funding for programs that would otherwise have been spent on these displaced defense workers.

A pilot effort using the tax incentives approach was launched under the Carter Administration in 1977 [Pub. L. No. 95-30, Sec. 202(b), added as Section 51 of the U.S. Code] and revised in the Revenue Act of 1978. Under that law, a "targeted employment tax credit" provided employers with an income tax credit of 50 percent of the first $6,000 of wages in the first year of employment and 25 percent in the second year to encourage hiring of unemployed disadvantaged persons, especially certain youths between the ages of 18 and 24. To avoid rewarding firms for hiring they would have done anyway, and to limit the cost, firms were required to increase their payrolls by 2 percent above the levels of the preceding year to qualify. And the total annual amount of the credit any employer could claim was capped at $100,000.

Subsequent amendments of Section 51 have reduced the current credit to only first-year wages of a new employee, and the total credit is limited to 40 percent of the qualified wages, as well as the original

individual limit of $6,000. The current list of targeted employees, whose hiring will enable the employer to claim the tax credit, include, among others – economically disadvantaged Vietnam-era veterans, youths, and ex-convicts; youths participating in a cooperative education program; and qualified summer youth employees.

Although economist Daniel Hamermesh of Michigan State University, one of the original designers of the Section 51 tax incentives, says that they have worked "fairly well",[93] and that they have created "a few thousand jobs," the gross limitations of the current provisions, especially if they were to be applied to displaced defense workers, are fairly obvious. First, the Section 51 tax rules are so complicated and Byzantine that only a tax specialist will easily understand how to use them. Not too many small businesses will be aware of these credits or, if they are aware, will bother to wade through the rules for one or a few possible hirees. And large businesses, who might be aware of and willing to tackle the rules with their tax lawyers and specialists, will find the possible credit too minuscule to bother with. Yet it is the large businesses who will most likely be able to afford to send recruiters to defense plants and to incur the other costs associated with a campaign to hire displaced defense workers.

Thus, the current Section 51 provides almost no real inducement for employers to reach out aggressively on their own to find and hire these workers. So, if such a tax incentives approach is considered for defense workers displaced during the current post-Cold War drawdown, the first thing that must be firmly established and clear to all involved is whether one seriously wants to encourage employers to hire these workers. If so, then the financial incentives must be enough to accomplish that, and with minimal red tape. That means that the reduction in taxes for the hiring companies must be genuinely significant.

Reagan Buildup and Drawdown in Historical Perspective

In reviewing the Reagan-era military buildup and Cold War aftermath, we have considered the period from 1981 to 1990. The latter year is the last for which we have a full set of economic data needed to make appropriate comparisons. Clearly, further post-Cold War military reductions are taking place and will likely continue through the decade.

The Reagan era defense buildup reached about the same peak spending levels, in real terms, as both the Korean War and Vietnam War buildups had done. In fact, it is surprising to see how closely the three major defense buildups correspond in this regard (see Figure 2). But, although the absolute dollar values were virtually the same for the three periods (at least at their peaks), the American economy was different for each. The most obvious – and perhaps the most significant – difference is the size of the economy during the three periods. In 1982 constant-dollar terms, the national economy stood at $1.2 trillion in 1950 at the start of the Korean War. By 1965 and the initiation of the major buildup for Vietnam, it was $2.1 trillion. And by 1981 and the commencement of the Reagan buildup, the economy had grown to $3.25 trillion in the same 1982 dollars. So each succeeding buildup, though reaching the same peak spending in real terms, occupied a greatly diminished portion of the economy in comparison to its predecessors (see Figure 1). Each succeeding buildup was thus potentially less of a burden on the economy of its time.

Another significant difference was the amount of unused or underused resources available to be employed in the defense buildup before the defense uses began cutting into civilian production. We have already noted this difference between 1950 and 1965. The Korean buildup began in an economy essentially in recession, with fairly high unemployment and low industry capacity utilization. The buildup, although large in relation to that smaller economy, could thus run quite a ways before it would begin bidding away resources from the regular economy. In fact, the surge in inflation during the Korean War came mostly in the first several months of the conflict and was driven by panic buying and hoarding in anticipation of severe shortages (such as occurred during World War II, just 5 years earlier) that never actually materialized. In contrast, the Vietnam buildup was launched in an economy already near full operating capacity. So the increase in defense production had to come, after taking up some minimal slack in the economy, at the expense of civilian production. If demand in that civilian side of the economy was not reduced by a corresponding amount (such as through increased taxes), the result would be inflation. And that is exactly what occurred. Finally, as with the Korean War mobilization, the Reagan buildup began in an economy in recession. Unemployment was extremely high – 9.7 percent in 1982 – and industry was operating at only 73 percent of capacity. So the economy could absorb a large defense buildup for quite a while before the civilian economy would be seriously affected.

A third difference between the three buildups is in the time taken to reach the peak of spending. As shown in Figure 2, the Korean mobilization was sharp and sudden, almost all of it taking place in

2 years, though the total buildup covered 3 years. The Vietnam buildup also took 3 years but was more gradual over that period. And the Reagan buildup was the most gradual of all, taking 8 years.

One final difference is in the degree of absolute change in defense spending for the three periods. The Korean War was launched from a very low base of defense spending. Continuing to use our 1982 constant-dollar basis (now using FY92 Budget numbers rather than 1991 *Economic Report of the President* numbers), defense spending went from $77.4 billion in 1949 to $271.5 billion in 1953, a change of $194.1 billion. The Vietnam War started from a much higher base – $181.4 billion in 1965 (lower than the preceding year) – and peaked 3 years later at $254.8 billion, an increase of $73.4 billion. So the real scale of the Vietnam buildup was less than half that of the earlier Korean War. The Reagan buildup started from a base of $171.4 billion in 1981 and peaked in 1989 at $256.6 billion, an increase over 8 years of $85.2 billion. Thus, the Reagan buildup was slightly larger than the Vietnam buildup but was spread over almost three times as long.

On the basis of all these counts together – size of the overall economy, capacity of the economy to absorb a large defense increase, gradualism of the buildup, and overall size of the defense spending increase – the Reagan buildup should have been the most economically benign of the three periods.

Each "war" president chose different policies to manage the economy during the buildup. Truman raised taxes, cut back on Federal civil spending, and tightened credit (if we believe the Federal Reserve responded to the President's will) to pay for the war, reduce consumer demand, and thereby control inflation. Johnson did not raise taxes or cut back on other Federal spending (although credit was tightened), hoping he could have a defense buildup, a Great Society program of Federal civil spending, a booming economy, and no inflation. Reagan actually cut taxes, on the theory that reduced taxes would engender a large expansion in the economy with an actual increase in overall Federal revenues, thus paying for the buildup. Credit also was loosened from its very tight levels during the recession of 1980–1982. Some of the defense increase was offset by cuts in Federal civil programs, but total Federal nondefense spending (including payment of interest, social security, etc.) continued to expand throughout the period. Nevertheless, the Federal deficit as a percent of GNP, though high by historical peacetime standards, actually declined over the years of the buildup (1981–1989).

For demobilization, or conversion from defense to civilian production, we might expect the reverse of many of these observations.

On the downside of a major defense buildup, the concern is that the economy be able to handle the transition from defense to civilian production without serious dislocation. There are essentially two principal ways to deal successfully with a major shift away from defense to civilian production.

First, one may focus on the larger economy so that it is made hospitable to receipt of the formerly defense-oriented resources. This might include various strategies to induce economic growth or expansion of the economy so that the defense resources are released into a larger economic pool that will be able to absorb them smoothly and put them to rapid use. So, high rates of Federal spending might be sustained by raising spending on Federal civil programs in direct compensation for the decline in defense spending. Or taxes may be lowered, giving businesses and consumers more disposable income and thus raising spending in the economy. Taxes may be lowered either directly or through measures such as allowing businesses to amortize their properties over shorter periods, as was done in World War II. Or monetary policies may be adopted that encourage spending or expansion of the economy. One example would be easier credit policies that boost money supply growth or lower interest rates or both. All of these measures might be called demand-oriented; their goal is to increase the demand in the economy for the resources that are being released from defense uses.

The other major demobilization adjustment strategy focuses on the defense resources themselves, rather than the receiving civilian economy. The goal here would be to reduce the amount of released resources that the economy has to absorb at any time, or to enable the defense resources to be converted quickly and successfully to civilian occupation. So, for example, stretching out the decline in defense spending over more years would reduce the dose that the economy has to deal with. Another tactic is to divert the defense resources, such as manpower, into other occupations that keep them from crowding into a potentially tight civilian marketplace. The GI Bill is a good example of this; by diverting many veterans into schools, it keeps them from competing for limited jobs in the marketplace. Another set of measures deals with helping defense manpower – veterans, DoD civilians, and defense industry workers – and defense companies make the transition more effectively into the civilian workplace. To the extent that these measures – such as job placement assistance or training – help the defense resources (people and companies) fit better into jobs or production that are ready and waiting for them, then the programs significantly help keep needed resources from standing idle or being ineffectively used. However, to the extent that jobs are tight or production restricted, then these programs merely assist one group of

candidates to compete more successfully than another group for the limited openings.

As with the mobilization phase during the three roughly comparable "war" periods, the Reagan era demobilization should be the most economically benign of the three. First, as was true for mobilization, the Reagan-Bush era economy is vastly larger than its predecessors. Again using our constant 1982 dollars for comparison, the GNP in 1954 was $1.4 trillion. In 1969 it was $2.4 trillion, and in 1990 it was $4.2 trillion. Thus, the resources being released from defense uses in the current drawdown are being absorbed by an economy that is three times as large as it was during the Korean demobilization and 1.75 times as large as the economy during the Vietnam War demobilization.

And the doses of defense resources being released into this much larger economy are much smaller than in the earlier periods. From its peak in 1953 at $271.5 billion (1982 constant dollars), defense spending fell to $198.5 billion in 1956, a reduction of $73 billion in 3 years, or an average of $24.3 billion per year. In comparison, the Vietnam reduction went from a high of $254.8 billion in 1968 to $202.7 billion in 1971. That is a reduction of $52.1 billion over the 3 years, or an average of $17.4 billion per year. And in the Reagan-Bush drawdown, defense spending dropped from $256.6 billion in 1989 (almost exactly the same as at the Vietnam War peak) to an estimated $223.3 billion in 1992. This is a reduction of $33.3 billion over the 3 years, an average of $11.1 billion a year. So the Reagan-Bush drawdown is releasing roughly half (46 percent) the amount of resources into an economy three times as large as that of the Korean War. Thus, one might expect the current defense reduction impact to be about one-sixth as large as that of the Korean War demobilization. Similarly, compared to the Vietnam War drawdown, the Reagan-Bush drawdown is annually releasing 64 percent of the amount of defense resources into an economy 1.75 times as large. Thus, on these grounds, the current drawdown (through 1992 only) should have roughly one-third (about 37 percent) of the impact on the economy as that following the Vietnam War. For a comparison of the three demobilizations using other measures, see Table 5.

On top of the "demobilization" from the peak of the Reagan-era defense buildup, the effective end of the Cold War has resulted in calls for additional defense reductions. In a sense, those additional reductions might be viewed as the demobilization from the Cold War buildup that began in 1950. These reductions come at the end of what

might be regarded as the Reagan-era buildup and drawdown of (roughly) 1981–1990.

But, as with mobilization, the state of the economy is critical in determining the impact of demobilization. Just as a relatively smaller buildup can have a greater negative impact on a full-employment economy than on an economy with large unused capacities (remember the comparison between the Vietnam and Korean mobilization situations), so too a relatively smaller demobilization into an adverse economy can have an exaggerated negative effect. What is an adverse economy? It is one that cannot quickly put to good work the resources being released from defense purposes. The key determinant, regardless of whether the economy has unused capacity or is at full employment, is its rate of growth. Generally speaking, if the economy is at full employment and is growing well, then the addition of new resources can be healthy, because they can be put to work in the expansion without competing against the already working manpower and industry. Such an economy has developed a need for the additional resources just at the time that they have become available from their former defense uses. But if the economy is not at full employment, then the growth rate must be much greater in order to put to work both the already idle resources in the economy and the newly available defense resources. If the growth rate is not enough, then the defense resources simply become part of the idle pool of resources. Unemployment rises, industry capacity use falls. The worst of all possible situations is the release of defense resources into an economy that is not growing or is growing very slowly and that has large unused capacity and high unemployment. At this point, providing transition assistance such as job training is not effective, because no jobs are available.

Today, even though the amount of defense resources being released into the economy is not large relative to either the post-Korean War or Vietnam War environments, unemployment is 7.2 percent (December 1992), industry capacity utilization (manufacturing) is only 77.9 percent (November 1992), and the economy growth rate is somewhere between 3 and 4 percent (final quarter, 1992).

Also, there is a significant difference in relative mobility of production resources in the several postwar economies. As we have noted, after the Korean War, defense production became increasingly specialized, so that by the time of the Vietnam-era drawdown, it was much more difficult for defense companies to convert quickly or successfully to civilian production. That situation prevails today as well.

Today, at least three simultaneous major restructurings appear to be taking place in the American economy. First and foremost, industry is slimming down in order to cut costs, raise profits, and increase global competitiveness, putting many workers awash into the economy at once. Second, there is the post-Cold War downsizing of defense, which we have been discussing. Third, there appears to be a major shift from production involving low-skilled workers to production demanding higher technical skills. In the process, the higher skilled workers, who are relatively few in supply, are in great demand and are finding their wages bid up by competing employers, while the lower skilled workers are increasingly unemployed or forced to take lower wage jobs. These three restructurings, plus the 1990–1991 recession, operate together to worsen the unemployment situation, to reduce confidence among consumers, and to prolong the economic hardship.

CONCLUSION

Out of this history of the last four major defense buildups and their aftermaths, a few observations seem striking. First, we note the relative scale of the different major conflicts. The national effort in World War II dwarfs all others by every measure. Unlike the later conflicts, World War II was a war of immediate national survival. About one-half of the entire economy rapidly became dedicated to the war effort. One out of every six working Americans was in the fighting forces (11.5 million men and women), and one-half of the working population was directly committed to the war, either in the military, as a civilian working for the military, or as a defense worker. The conversion of the society from peace to war was swift, dramatic, and without equal either before or after in the nation's history.

In comparison with World War II, the Korean and Vietnam Wars and the Reagan buildup seem small. Actually, in real terms those three defense buildups were virtually the same in scale; the actual amount of the national treasury (in 1982 dollars) devoted to each reached almost the same peaks. Yet the Vietnam and Reagan efforts constituted a much smaller amount of the overall economy than did the Korean War. In other words, although the country spent essentially the same amount of money for the Korean and Vietnam Wars and the Reagan buildup, those "equal" amounts were increasingly smaller portions of an ever-larger national economy. The country could "afford" the expense more and more easily over time as the nation grew increasingly "wealthy." Table 6 compares the sizes of the four major defense mobilizations and demobilizations relative to the U.S. economy of each period.

TABLE 6

Scale of Mobilization and Demobilization

	Up (increase in defense spending as a percent of GNP)	Down (decrease in defense spending as a percent of GNP)
WWII	39.1	37.1
Korea	8.2	3.7
Vietnam	1.8	1.4
Reagan	1.0	1.0 (through 1991)

In terms of the numbers of men and women serving in the military, the Korean and Vietnam Wars again were virtually identical; at the peak there were 3.59 million men and women in the Korean War military and 3.53 million during Vietnam. By contrast, during the Reagan buildup the military forces grew to only 2.23 million. Most of the Reagan buildup was spent on weapons, not larger forces.

Additionally, World War II and the Korean War were more compressed events than the Vietnam War and Reagan buildup. The latter two buildups and drawdowns were spread over longer periods than the earlier conflicts. This meant that the later, larger economies should have been able to adjust to the defense changes more easily, given proper Government fiscal and monetary management.

A second significant observation is that each defense buildup was followed fairly quickly by a recession. It is difficult to characterize the period immediately after World War II as recessionary. The conversion from war production was so massive that it is difficult to separate that process from the "regular" economy. And comparing it to the prewar economy is not useful, since that was artificially low in the Great Depression. Nevertheless, a true recession did occur in 1949 that Truman attributed to the effects of war-generated inflation. Although a postwar reduction of some production and employment must be expected compared to the "artificially" high levels of war, the mild recessions of 1954, 1970, and 1990 are sometimes attributed to the effects of defense drawdowns releasing resources into the economy. In other words, demobilization is said to have "caused" the recessions.

This argument, however, is difficult to confirm. In the case of the post-Korean War recession, both the Truman and Eisenhower Administrations had adopted tight monetary and fiscal policies that

may have been the primary culprit. In 1970 the economy, as in 1949, was trying to adjust to new levels of inflation that were probably caused by war production being imposed on a full-employment economy (without compensating adjustment). In the 1990 recession, several major restructurings of the economy were taking place simultaneously, along with a tightening monetary policy, all of which could have been likely causes.

Both the post-Vietnam War and post-Reagan/Cold War drawdowns should have been relatively minor adjustments in the overall economy of each period, at least in comparison with the Korean War aftermath. However, the adjustment was certainly not easy for many defense contractors. It is generally believed that defense contractors had become increasingly specialized to meet the unique requirements of the military and were unable to diversify from this "culture" into the commercial world. Most, therefore, ended up releasing those workers who were no longer needed for the companies' diminished, ongoing defense business.

The key factor in determining whether a defense drawdown will be successful is the dynamic growth rate of the overall economy. If the economy is sustaining healthy growth, then the resources released from defense purposes are most likely to be readily absorbed and put to good use. If the economy is not growing strongly, as in the period 1990–1992, the additional burden of released defense resources may aggravate the economic situation.

Finally, we note the several attempts by the Government to provide various forms of assistance during the transition from defense to civilian work. The most consistent programs throughout the period from World War II through the present have been (1) a GI Bill-type assistance package to military veterans moving to civilian status and (2) unemployment insurance assistance programs under Federal Government auspices, but run by the states. Additionally, since 1961 a program of assistance has been available to localities to help them adjust to the closing of defense bases and plants. During the period studied, there was no, or very little, direct assistance given to defense companies to aid them in adjusting to cutbacks in defense contracting.

Defense workers displaced by defense cutbacks have been eligible for unemployment insurance and some Federal assistance programs. These assistance programs were not generally targeted specifically at defense workers. However, defense scientists, engineers, and other technical workers were eligible for help under the Technology Mobilization and Reemployment Program of 1971. The actual merits of that post-Vietnam War program are difficult to measure. The overall

reemployment success rate of participants was very low. Rather than rely on direct Federal programs, another approach to aid workers was launched in the Carter Administration and relied on giving companies who hired displaced workers a tax benefit. Although the benefit offered under this program was not enough to induce much hiring, the tax incentives approach may have promise as a way of reducing the unemployment of laid-off defense workers, if a program of preferential assistance to these displaced persons is desired.

For a brief summary of selected comparisons for the four major military buildups and their aftermaths, see Appendix A, Table A-1.

END NOTES

1 *Economic Report of the President*, 1957, Table E-17 and footnote 1. One reason various studies and books use different numbers for these populations is that the 1940 Census failed to count 150,000 military personnel overseas. See Table C-7, *Economic Report of the President*, 1949. In this chapter only we have elected to use numbers from the national income accounts (Annual Economic Reports of the President), rather than from annual U.S. budget documents. The accounting for "national defense," for example, covers different items in the various documents. The choice allows us to be consistent across a large number of years and economic measures.

2 Ibid.

3 Ibid.

4 *Economic Report of the President*, 1991, Table B-1. The GNP numbers were revised in 1986 for 1929–1985. They were revised again in 1991, but the latest tables do not go back before 1959.

5 *Economic Report*, 1957, op. cit.

6 U.S. Congress, Office of Technology Assessment, *Redesigning Defense: Planning the Transition to the Future U.S. Defense Industrial Base*, July 1991, p. 13.

7 "America," *The Economist*, October 26, 1991, p. 3.

8 Kenneth L. Adelman and Norman R. Augustine, *The Defense Revolution: Intelligent Downsizing of America's Military*, ICS Press, San Francisco, 1990, pp. 121–123.

9 Lois Lembo, Judith Philipson, and Leon Reed, *Lessons from the Past: Mitigating the Effects of Military Cutbacks on Defense Workers*, TASC, Arlington, Va. (no date), p. 9, citing Perrett, Geoffrey, *Days of Sadness,*

Years of Triumph: The American People 1939–1945, Coward, McCann, and Geoghegan, New York, 1973, p. 399.

[10] *The Economist*, op. cit.

[11] Jack Stokes Ballard, *The Shock of Peace*, University Press of America, Washington, D.C., 1983, p. 124.

[12] Ballard, op. cit., p. 129.

[13] Economic Report, 1957, op. cit.

[14] Ballard, op. cit. p.129.

[15] Office of Technology Assessment, *After the Cold War: Living with Lower Defense Spending*, Figure 1-3, p. 5.

[16] Lembo, et al, op. cit., p. 10, citing Milward, Alan S., *War, Economy and Society 1939–1945*, University of California Press, Berkeley, 1979, p. 229.

[17] *Economic Report of the President*, 1991, Table B-1. Using constant dollars, Federal spending was 52 percent of GNP in 1944.

[18] Lembo, et al, op. cit., pp. 10–11.

[19] *Economic Report of the President*, 1947 (January), p. 23.

[20] *Economic Report of the President*, 1947 (July), pp. 82–83.

[21] Paul W. McCracken, "Why Things Aren't Getting Better," *The Wall Street Journal*, July 23, 1992, p. A-12.

[22] *Economic Report*, 1947 (July), op. cit.

[23] Ballard, op. cit., p. viii.

[24] The Conference on Postwar Readjustment of Civilians and Military Personnel predicted in June 1943 that the end of the war would see "as many as 8 or 9 million unemployed persons in the labor market." Ballard, op. cit., p. 16.

[25] Remaining material on conversion planning and preparation relies on Ballard unless noted otherwise. This short book is highly recommended to anyone investigating defense conversion issues. Although dealing solely with WWII conversion, and thus with America's most challenging conversion experience, it provides valuable insights for just that reason.

[26] *Economic Report of the President*, 1991, Table B-87.

[27] *Economic Report of the President*, 1949, Table C-27.

[28] *Economic Report of the President*, 1947 (January), p. 9.

[29] Ibid.

[30] Ibid.

[31] Ibid., p. 16.

[32] Ballard, p. 166.

[33] Econ Report, 1947, op. cit., p. 12.

[34] Ballard, pp. 166–172.

[35] James A. Huston, *Guns and Butter, Powder and Rice*, Associated University Presses, Cranbury, N.J., 1989, p. 25–28.

[36] *Economic Report of the President*, 1991, Table B-1. Using Table 3.1 of the United States Budget for Fiscal Year 1992, the figure is 3.7 percent of GNP, compared to a high of 39.2 percent in 1944. The two official documents include different items in their totals for "national defense." For consistency, we use the Economic Report tables throughout, except where cited otherwise, such as in some of the figures. For comparison, see Appendix B, which shows defense spending as a percentage of gross *domestic* product, using U.S. Budget figures for defense outlays.

[37] Huston, op. cit., pp. 28–30.

[38] *Economic Report of the President*, 1991, Table B-1.

[39] Huston, op. cit., p. 32.

[40] *Economic Report of the President*, 1991, Table B-1.

[41] Ibid., Table B-32 and Huston, op. cit., p. 109.

[42] Terrence J. Gough, *U.S. Army Mobilization and Logistics in the Korean War*, U.S. Army Center of Military History, U.S. Government Printing Office, Washington, D.C., 1987, pp. 55–57.

[43] Huston, op. cit., pp. 108–109.

[44] Gough, op. cit., pp. 114–115.

[45] John Edward Wiltz, "The Korean War and American Society," *The Korean War: A 25-Year Perspective*, Francis H. Heller, editor, Lawrence, Kan.: The Regents Press of Kansas, p. 118.

[46] Ibid.

[47] Ibid., pp. 119–120.

[48] Ibid., pp. 128–132.

[59] Ibid., pp. 132–133 and Gough, op. cit., pp. 109–110.

[50] Wiltz, op. cit., pp. 137–140.

[51] Table B-2, *Economic Report of the President*, 1991.

[52] *Economic Report of the President*, 1991, Table B-1 and 1992, Table B-74.

[53] *Economic Report of the President*, 1991, Table B-1.

[54] Ibid., Table B-32.

[55] Lembo, op. cit., p. 15.

[56] James W. McKie, *Proprietary Rights and Competition in Procurement*, Santa Monica, Calif.: The RAND Corporation, June 1966 and U.S. Congress, Office of Technology Assessment, *After the Cold War: Living with Lower Defense Spending*, Washington, D.C.: U.S. Government Printing Office, February 1992, p. 8.

[57] OTA, Ibid., pp. 7–8, 147 and Wiltz, op. cit., pp. 156–157.

[58] Lembo, op. cit., p. 16.

[59] *Economic Report of the President*, 1991, Tables B-1 and B-27.

[60] Ibid., Table B-29.

[61] Ibid., Table B-12.

[62] Ibid., Tables B-1 and B-2.

[63] Ibid., Table B-32

[64] Ibid., Table B-48.

[65] Leslie H. Gelb and Richard K. Betts, *The Irony of Vietnam: The System Worked*, Washington, D.C.: The Brookings Institution, 1979, pp. 159 – 160.

[66] Ibid., p. 159.

[67] Bernard Udis, ed., *The Economic Consequences of Reduced Military Spending*, Lexington, Mass.: Lexington Books, 1973, p. 47.

[68] Ibid., p. 52; *Economic Impact of the Vietnam War*, The Center for Strategic Studies, Georgetown University, Washington, D.C.: Renaissance Editions, Inc., 1967, pp. 18 – 20.

[69] Lembo, op. cit., p. 16.

[70] Ibid., Table 3, p. 18.

[71] Ibid., pp. 16 – 18.

[72] Hugh G. Mosley, *The Arms Race: Economic and Social Consequences*, Lexington, Mass.: Lexington Books, 1985, p. 176.

[73] Ibid., pp. 164 – 165, and Lembo, op. cit., p. 17.

[74] Ibid., pp. 176 – 178.

[75] Ibid., p. 177.

[76] John P. White, "DoD Provides Assistance to Impacted Areas," *Commanders Digest*, June 1, 1978, and "Inter-Agency Economic Adjustment Committee," *Commanders Digest*, May 17, 1973.

[77] Lembo, op. cit., pp. 17 – 19; and President's Economic Adjustment Committee, *Economic Adjustment/Conversion*, July 1985, pp. 69 – 77.

[78] EAC, op. cit., pp. 69 – 77.

[79] OTA, op. cit., p. 147.

[80] President's Economic Adjustment Committee, *Economic Adjustment/Conversion*, "Defense Worker Placement," by Abt Associates, July 1985, p. 75.

[81] OTA, op. cit., pp. 116–117.

[82] Ibid., and EAC, op. cit., p. 75.

[83] Arthur J. Alexander, "Can Russia's Closed Cities Convert to Non-Defense Economies?" prepared for conference on Russian closed cities, Stavanger, Norway, May 18–20, 1992; p. 2.

[84] Curtis Eaton, "The Individual and the Defense Mass- Layoff," in *Adjustments of the U.S. Economy to Reductions in Military Spending*, U.S. Arms Control and Disarmament Agency, ACDA E-156, December 1970, p. 350, citing R. P. Loomba, *A Study of the Reemployment and Unemployment Experiences of Scientists and Engineers Laid Off From 62 Aerospace and Electronics Firms in the San Francisco Bay Area During 1963–1965* (San Jose, Calif.: San Jose State College, Center for

Interdisciplinary Studies, Manpower Research Group, February 1967), p. 50.

[85] Ibid., p. 358.

[86] Ibid., citing Joseph D. Mooney, "An Analysis of Unemployment Among Professional Engineers and Scientists," *Industrial and Labor Relations Review*, Vol. 19, No. 4 (July 1966).

[87] Ibid., figure 1, p. 357.

[88] Ibid., p. 367.

[89] Ibid., p. 366, citing State of Washington, Employment Security Department, *The Dyna-Soar Contract Cancellation*, U.S. Arms Control and Disarmament Agency Publication No. 29 (Washington: Government Printing Office, 1965), p. 168.

[90] Ibid., p. 374, citing Max Rutzick, "Skills and Location of Defense-Related Workers," *Monthly Labor Review*, Vol. 93, No. 2 (February 1970), pp. 11–16.

[91] Ibid., p. 375, citing Carl H. Rittenhouse, *The Transferability and Retraining of Defense Engineers*, U. S. Arms Control and Disarmament Agency, ACDA/E-110 (Washington: Government Printing Office, 1968), p. 57.

[92] Ibid., citing Rittenhouse, pp. 8–9.

[93] David Wessel, "Wanted: Fiscal Stimulus Without Higher Rates," *The Wall Street Journal*, October 5, 1992, p. A-1.

APPENDIX A

Selected Comparisons of Four Major Military Buildups and Drawdowns

TABLE A-1

Selected Comparisons of Four Major Military Buildups and Drawdowns

Period	Condition of economy at outset of conflict	Scale of mobilization	Basic war economy management policy	De pr de
WWII	• Great Depression • 14.6% unemployment (1940)	• Vast, sudden • Military spending 2.3% (1940) of GNP 41.4% (1943) • Military forces 0.5 million (1940) 11.4 million (1945)	• Massive Federal deficits (28.3% GNP in 1943) • Wage/price controls, rationing	• Detai • Centr demo
Korea	• Recession (mild) • 1950: 5.3% unemployed 83% industrial capacity use	• Large, sudden • Military spending 5% (1950) 13.2% (1953) • Military forces 1.6 million (1950) 3.6 million (1952)	• Taxes raised (pay as you go) • Wage/price controls (mild)	Not c
Vietnam	• Full-employment economy • 1965: 4.5% unemployed 90% industrial capacity use	• Moderate, stretched out • Military spending 7.2% (1965) 9.0% (1967) • Military forces 2.7 million (1965) 3.5 million (1968)	• Guns *and* butter (great society) • Tax increase – only late, small, brief	V
Reagan	• Recession (severe) • 1982: 9.7% unemployed 73% industrial capacity use	• Small, very stretched out • Military spending 6.1% (1982) 6.5% (1986) • Military forces 2.18 million (1982) 2.23 million (1984)	• Tax cut, historically large Federal deficits • Civilian spending, defense spending *both* rise	

Degree of prior preparation for demobilization	Key elements of demobilization program	Condition of economy in aftermath	Scale of demobilization

Detailed, extensive
Centralized planning for demobilization
	• Postwar production
	  ▸ Tax policies
	  ▸ Plant clearance
	  ▸ Contract settlement
	• GI Bill
		• Strong production
		• Good employment
		• Inflation
		• Recession
			• Vast, sudden
			• Military spending
			41.4% (1944)
			4.3% (1947)
			• Military forces
			11.4 million (1945)
			1.5 million (1948)

Not quite WWII levels	GI Bill	• Recession (mild – 1954) • Tight monetary and fiscal policy	• Moderate, quick • Military spending 13.2% (1953) 9.5% (1956) • Military forces 3.6 million (1952) 2.9 million (1956)
Virtually none	• Programs in place from prewar • Defense worker assistance • GI Bill	• Recession (mild – 1970) • "Stagflation"	• Small-moderate, stretched • Military spending 9.0% (1967) 7.6% (1970) • Military forces 3.5 million (1968) 2.8 million (1971)
		• Recession (1990) • Slow growth	• Small, stretched • Military spending 6.5% (1986) 5.7% (1989) • Military forces 2.2 million (1984) 2.1 million (1989)

(2)

APPENDIX B

Summary of Defense Outlays, Using U.S. Budget Numbers, As Percentages of GDP: 1940 – 1997

TABLE B-1

Summary of Defense Outlays, Using U.S. Budget Numbers, As Percentages of GDP: 1940–1997

Year	GDP (in billions of dollars)	Defense outlays (in millions of dollars)	Defense as a percentage of GDP
1940	95.5	1,660	1.7
1941	112.5	6,435	5.7
1942	141.7	25,658	18.1
1943	175.4	66,699	38.0
1944	201.6	79,143	39.3
1945	211.9	82,965	39.2
1946	212.3	42,681	20.1
1947	222.6	12,808	5.8
1948	246.5	9,105	3.7
1949	262.4	13,150	5.0
1950	265.5	13,724	5.2
1951	313.2	23,566	7.5
1952	340.3	46,089	13.5
1953	363.4	52,802	14.5
1954	367.4	49,266	13.4
1955	363.9	42,729	11.1
1956	415.2	42,523	10.2
1957	437.2	45,430	10.4
1958	447.1	46,815	10.5
1959	478.7	49,015	10.2
1960	505.9	48,130	9.5
1961	516.9	49,601	9.6
1962	554.3	52,345	9.4
1963	585.0	53,400	9.1
1964	626.5	54,757	8.7
1965	671.4	50,620	7.5
1966	738.6	58,111	7.9
1967	791.3	71,417	9.0
1968	849.8	81,926	9.6
1969	925.5	82,497	8.9
1970	985.6	81,692	8.3
1971	1,051.6	78,872	7.5

Source: *Budget of the United States Government*, Fiscal Year 1993, Supplement, February 1992.

TABLE B-1

Summary of Defense Outlays, Using U.S. Budget Numbers, As Percentages of GDP: 1940 – 1997 (Continued)

Year	GDP (in billions of dollars)	Defense outlays (in millions of dollars)	Defense as a percentage of GDP
1972	1,145.8	79,174	6.9
1973	1,278.0	76,681	6.0
1974	1,403.3	79,347	5.7
1975	1,511.0	86,509	5.7
1976	1,685.1	89,619	5.3
TQ	444.9	22,269	5.0
1977	1,919.7	97,241	5.1
1978	2,156.4	104,495	4.8
1979	2,431.9	116,342	4.8
1980	2,644.5	133,995	5.1
1981	2,964.7	157,513	5.3
1982	3,124.9	185,309	5.9
1983	3,317.0	209,903	6.3
1984	3,696.7	227,413	6.2
1985	3,970.9	252,748	6.4
1986	4,219.6	273,375	6.5
1987	4,453.3	281,999	6.3
1988	4,810.0	290,361	6.0
1989	5,170.1	303,559	5.9
1990	5,459.5	299,331	5.5
1991	5,626.6	273,292	4.9
1992 estimate	5,865.0	307,304	5.2
1993 estimate	6,231.6	291,353	4.7
1994 estimate	6,632.8	283,391	4.3
1995 estimate	7,056.1	283,161	4.0
1996 estimate	7,498.9	286,264	3.8
1997 estimate	7,955.5	289,273	3.6

Source: Budget of the United States Government, Fiscal Year 1993, Supplement, February 1992.